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ORIGINAL ARTICLES.

THE SURGICAL ENGINE AND ITS USE IN BONE SURGERY.[1]

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THE requirements of a satisfactory surgical engine are, first, that it be so geared that the velocity of the cutting tool is from four to six thousand revolutions per minute, which speed is to be maintained under varying pressures. The hand-piece (the chuck which holds the instrument) should be light, capable of easy adjustment, and so arranged that the instrument fixed in it may be carried with readiness into the recesses of deep cavities. There should be no undue vibration of the instrument while held to its work as this will lessen tactile recognition of the nature of the tissue being cut. The motive power should be so arranged that it is under perfect control and produces steadiness and uniformity of speed. The hand-piece and its several parts, with the instruments used, must be of such character that perfect sterilization can be readily accomplished.

Surgical engines of several designs have been in use for many years, but, strangely enough, few general surgeons appear to have availed themselves of the advantages to be derived through their use, preferring the use of hand-tools—saws, gouges, chisels, mallets, hand-drills, and heavy cutting forceps—for their operations upon the bones. There is scarcely an operation upon osseous tissues that could not be more quickly and accurately performed by means of the engine than with any of the hand-instruments used. Many of these latter are crushing instead of cutting instruments. This singular preference has always appeared to me to be akin to a carpenter choosing hand-tools when a molding machine is available.

Objections to some of the older forms of engines were not without good foundation. As they were chiefly notable for their faults of design and of construction, the deficiencies in mechanical performance might be accepted as a necessary evil, but the impossibility of complete sterilization was an objection not so easily disposed of. These serious drawbacks have one by one been corrected, until in its present form the engine combines all of the features described as requisites of a correct machine. It is simple in design and accurately built, so that there is little liability of the mechanism getting out of order.

The performance of a series of operations upon the cadaver will readily give any surgeon a mastery of the instruments and mechanism. As with all other machines, some practice is required to give perfect control of it. The present form of hand-piece may readily be rendered aseptic.

So far as my personal knowledge goes, the first use of the engine in surgery was made by Dr. Harrison Allen of Philadelphia, in 1876, when he removed an osteophyte from the mouth of a patient by means of it. When the late Professor Garretson founded the Hospital of Oral Surgery in Philadelphia he obtained an enlarged and modified cord engine, turned by means of a crank. It was known as the Bonwill surgical engine. With all its defects of design and construction, this apparatus was of marked service, and was the progenitor of the recent forms of the surgical engine, notably of the one exhibited at the World's Columbian Dental Congress, in 1893. A description of this engine will be found in the proceedings of the Congress. Extended and accurate observation showed this engine to be too heavy and complicated to fill the needs growing out of an increased refinement and delicacy in modes of operating. The engine was not readily portable—that is, it could not be readily taken apart and packed in a small case for shipment; the hand-piece was not of a form which would permit of easy sterilization, and would not carry an instrument of thick enough shank to prevent vibration in certain classes of operations.

The present engine is new in nearly all of its features; it is simpler in design, lighter in construction, and its parts are readily detachable to permit of packing in a small case—a box not larger than those made for croquet sets. The hand-piece is designed with a twofold object—first, with a reference to the mechanical, second, to the pathological elements involved. It is sufficiently rigid to carry its tools steadily while operating upon dense bone, and may readily be rendered perfectly aseptic. The latter point is repeatedly emphasized because of the serious objection to previous hand-pieces, involving the existence of spaces which commonly retained septic matter. That portion of the engine which transmits the power from the large wheel to the pulleys of the hand-piece re-

[1] The substance of this paper was read before the Odontological Society of New York, November 17, 1896.

quires no description other than that of the illustration. The engine is driven by an electric motor of one-sixth horse-power.

For office practice, and when driving by electricity, the upright shaft from above the crank and the "arm" may be attached to a bracket. This plan is excellent when the engine is used in bone surgery of the nasal fossa or other light surgery about the face or ears; but for hospital and heavy work it is better to use the stand, as it can be moved about to suit the convenience of the operator.

The hand-piece has undergone complete change, in order that the several appliances used can be made absolutely aseptic and kept so throughout the operations. All that portion of the instrument which includes the hand-piece and its wrist-joint attachment, except the cord, can be throughly boiled under pressure. The hand-piece proper is detached from the pulley after the parts have been sterilized; the pulley is adjusted and the cord placed in position; the hand-piece or pieces, after sterilization, are kept in a tray containing a carbolic acid or lysol solution until used. When the surgeon is ready to use the instrument, his assistant holds the pulley attachment in such a manner that the hand-piece can be adjusted without the hand coming near the cord or that portion upon which it works. For ordinary surgery, one hand-piece is quite sufficient, as any number of instruments can be easily adjusted by opening the key-latch and inserting the sterilized instruments, which are also placed in a tray containing the antiseptic solution. For opening the brain-case it is preferable to have two hand-pieces—one with the small trephine and one with the spiral osteotome and guard adjusted. It saves time, an element of some importance in these operations.

Among the various uses for which the surgical engine is well adapted is the removal of carious bone from almost any of the bones of the body. This may be done without danger of injuring the surrounding tissue, for, when properly manipulated, operations may be performed without injury to the periosteum of the bone operated upon.

The engine has also been most successfully used in mastoid and other operations on the temporal bone and upon the nasal fossæ; also for removing caries and necrosis of the maxillary bones. The removal of even the greater portion of these bones may be accomplished without external incisions, which gives greater advantage over the older methods of operating with the cutting forceps and saws, as the parts are left smooth and rounded, not jagged and roughened.

The engine has also been used extensively in opening into the inferior dental canal or cutting through the ramus of the inferior maxillary bone to reach the inferior dental nerve; also in opening through the superior maxillary bone for resection of the second division of the fifth nerve. Another office which the engine has been called upon to fill is the opening of the brain-case with the absolute certainty of not injuring the brain or its covering membranes.

In October, 1893, the surgical engine was first used in the operation for removal of the Gasserian ganglion by Professor W. W. Keen, for report of which see Transactions of the Philadelphia Medical Society for 1894. In this case a revolving saw, with guard, was used to cut the outer table and diploë, the inner plate being broken through by mallet and chisel. During the discussion of the report of this operation before the Society, Dr. John B. Roberts made the following remarks: "With regard to this elaborate instrument, it seems to work very satisfactorily, yet for my own work I should rather use a sharp chisel with my own hand and my own mallet than any mechanical device. These are apt to get out of order, and must be at some place where they can be kept in order. What we want to do is to train our own hands to do the work, and not be dependent upon any mechanical device." This statement indicates to me a false position with regard to this class of instruments which it seems to me ought not to go uncorrected.

With all due respect and admiration for the ability of Professor Roberts, I am a little fearful that surgery would take a backward step if all its mechanical devices were done away with. I heartily agree with him when he says that "what we want is to train our hands to do the work," and I would strongly advocate the highest possible attainment of manual skill as a necessary prerequisite in the performance of all surgical operations; but when he adds that we should "not be dependent upon any mechanical device," I am inclined to take issue with him on the ground that his statement is contradictory, from the very fact that he himself advocates the use of a mechanical device, albeit a very crude one, in the shape of a mallet and chisel. After having used a dental or surgical engine for eighteen years, in all kinds of bone operations, I consider this engine as far in advance of chisel and mallet in bone surgery as the Pullman car is ahead of the canal boat in traveling.

It was decided during the operation referred to for removal of the Gasserian ganglion, and after a series of carefully-conducted experiments upon the cadaver, that the danger of wounding the membranes of the brain, and even the brain itself, had not been altogether obviated. This insecurity was partly due to the fact that brain-cases vary in thickness, and even the individual skull is thicker in some parts than in others, thus making it impossible to use a fixed guard when

working from the outside of the skull. It was desired to cut entirely through the bone down to the dura mater with the engine, thus avoiding the use of the mallet and chisel, and after many trials with various burs, saws, etc., the following arrangement was devised, which has completely fulfilled the requirements, as many brain-cases have since been successfully opened with it: The cutting portion of the instrument, called a spiral osteotome, is one-half an inch in length, and one-eighth of an inch in diameter, and tapers slightly from base to point. It is divided by three spiral grooves, each having a turn of 120° through the half-inch from the base to the point of the cutting end, the arrangement of its three blades giving it the appearance of a twist drill. The point of the bur, when in use, is guarded by a button-like attachment, connected with the nose of the hand-piece by means of a shank and collar. The free end of the bur is doweled into a seat in the guard, in which it revolves, which steadies the whole arrangement when in use, gives an added rigidity to the bur-shank, and holds the bur and guard in permanent relationship to each other.

The principle involved in the instrument described is simply that of a saw arranged to cut in a line with the axis of the shaft of the bur, and not at right angles to it, as in the circular saw. Such an arrangement allows of cutting in any direction and upon curved lines. This feature is especially valuable in resections of the brain-case, inasmuch as fenestra of any desired shape or size may be speedily made.

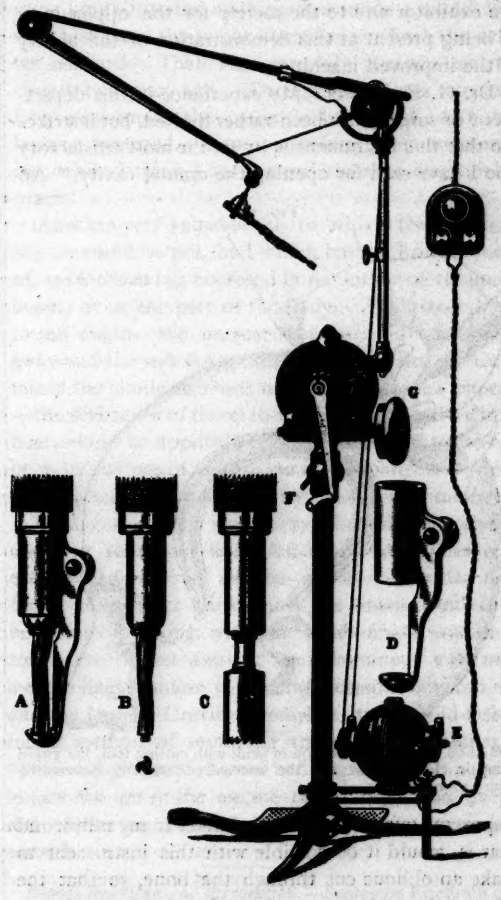
The mode of opening the brain-case by means of the spiral osteotome is as follows: After division of the soft tissues by the scalpel, a small opening is first made with a trephine mounted in the engine hand-piece; this trephine has a diameter of five-sixteenths of an inch, and is passed completely through both tables of the skull and the button of bone removed. There is no danger of injuring the dura with the trephine if it be carefully used by one who has had a little training with the instrument upon the cadaver. The opening thus made affords a means of entrance for the osteotome, with its protecting guard, which is next inserted in the opening and the section made along the lines previously determined by running the engine at high speed and forcing the bit laterally in the direction desired. The button-like guard at the point of the osteotome absolutely prevents injury to the dura, which is pressed or dissected away by it from its attachment in the lines of the cut as the instrument progresses.

The instrument as a whole has been designed not only with reference to the mechanical requirements imposed by the dense tissues which are to be operated upon, but with a full recognition of the demands which the later developments of bacterio-pathologic research have made a requirement in all surgical procedures, *viz.*, rigid asepsis of the instruments used.

DISCUSSION.

Dr. R. F. Weir: I am only too pleased to express my gratification at seeing this instrument to-night. It far exceeds my idea of its capacities, and I was especially impressed with the satisfactory way in which the deviser of the machine performed the operation. The only weak point I see is the use of the preliminary trephine opening. It is liable, even in experienced hands, to do damage to the dura and the brain, for I have used the trephine with the electric motor a number of times, and I have found that sometimes I could avoid injuring the dura and sometimes

FIG. 1.



IMPROVED SURGICAL ENGINE FOR BONE OPERATIONS.
A—Spiral osteotome with guard for removing section of skull.
B—Spiral osteotome.
C—Trephine.
D—Guard for osteotome.
E—Electric motor.
F—Crank for hand propulsion.
G—Driving wheel for hand propulsion.

not. Entrance, however, being once made into the skull—I should prefer for this the Flower hand-trephine—I see nothing to prevent the use of the instrument, and I hope soon to have the opportunity of using it in the New York Hospital. Something of this kind is of great value. I feel that I cannot add anything more, except to renew my thanks to the exhibitor and to the society for the opportunity of being present at this demonstration of the ability of the improved machine.

Dr. G. E. Brewer: My experience in this department of surgery has been rather limited, but it strikes me that this instrument is by far the most satisfactory one I have seen for opening the cranial cavity. An important question, however, arises in my mind, and that is, would it be possible with this instrument to make an oblique cut through the bone, so that the edge of the bone-flap would be beveled? as it is important, in replacing the bone, to avoid a depression of the flap below the surrounding portions of the skull. In the operation shown to-night this was not done, but I see no reason why it could not be accomplished. It is certainly of advantage to save time in these operations. In the cases upon which I have operated, it required from ten to fifteen minutes to remove an omega-shaped flap of bone three inches in diameter. With this instrument the same work can be done in two or three minutes. I think with Dr. Weir that if more safety could be insured against wounding the dura by the preliminary trephine-opening, the value of the instrument and method would be enhanced.

FIG. 2.

Method of removing section of skull with cutting tool, the guard being in close contact with the internal surface, thus preventing injury to meninges.

Dr. Cryer: My experiments on the cadaver were not at first encouraging; the instrument seemed inclined to slip, and would not cut as I wished, but after a little practice this difficulty was overcome. The hand-piece should be held like a pen, with the third and fourth fingers resting upon and near the parts to be cut, which should also be firmly held. In using the spiral osteotome, the third and fourth fingers do not rest upon the head. Mechanical guards can be used to prevent the danger of the trephine plunging into the brain; but by holding the instrument properly, one who is accustomed to operations upon the cranium can, by a little practice, operate with safety without the guard, and even tell, by feeling alone, what kind of bone tissue he is cutting or when nearly through the walls of the skull.

When it is desired to return the flap of bone, and also in working with skulls of ordinary thickness, I would not recommend the use of as thick an osteotome as I have used on this negro's very thick skull; by using a thinner one, the kerf would not be so wide. It is well in some cases to use an irrigating bottle, which keeps the parts clear while being cut.

The instrument has been successfully used in making artificial sutures for children whose natural sutures have fully ossified and prevented the expansion of the brain and the enlargement of its encasement. In this operation, make the linear incision in the integument for the longitudinal suture a little to one side of the median line, to avoid the longitudinal sinus. Then it is well to trephine at the anterior and posterior ends of the line to be cut, when the instrument can be inserted at the end most convenient and the bone cut to the other opening. If an artificial fronto-parietal or occipito-parietal suture is desired, then the instrument should be entered at the anterior or posterior trephined opening and carried in the direction desired. The instrument has been passed between the longitudinal sinus and the bone without injury to the former. The guard will push an artery or vein out of its groove in the bone; but should the artery be inclosed in a canal, as is sometimes the case with the meningeal arteries, the osteotome will cut the vessel.

Dr. Blackman: While my experience in brain surgery has been exceedingly limited, I will say that I have seen some operations performed by Horsley of London, who, as an authority, is perhaps unquestioned. I have never seen anything so complete for operations on the brain-case as this instrument and its appliances. Mr. Horsley has discarded the mallet and chisel entirely, and depends upon the hand-trephine and bone-forceps of his own design. One unquestionably needs to learn how to handle the instrument. You cannot use the old trephine

successfully without knowing how to handle it. I think this instrument would be particularly useful in forming new sutures, as Dr. Cryer has just said, and especially in cases of operations for allowing expansion of the brain-case in cases of idiocy, where a new suture can be formed without the removal of bone, by making this strip.

Dr. John B. Walker: I will simply say that I am very much pleased with the machine. I appreciate very much the saving of time by its use. I do not think there is anything further, unless it be that the drill could be made smaller. I suppose that could not be done and the instrument still have the same strength.

Dr. B. F. Curtis: I have been very much interested in this instrument. I think possibly one reason why the small trephine is not so apt to cause injury to the dura is on account of its size, as the large trephine is more likely to cut too deeply at one edge. The great advantage of this method of opening the skull is the avoidance of shock from the repeated blows of the mallet upon the chisel, which is a serious item, and also the great saving in blood, because the bone would be lifted out so rapidly that the vessels of the diploë, which give us so much trouble, and from which the patient may lose a couple of ounces of blood in the operation with the hand-trephine, would not have time to discharge so much blood before they could be reached and plugged. There would be a saving of blood as well as of time.

Dr. S. G. Perry: It seems to me there is one point made by Dr. Cryer which should be emphasized. I suppose there is not a dentist present who does not know perfectly well that those burs, however sharp or coarse their blades may be, when revolving, do not cut on the soft as they do on the hard tissues. I have often quieted a patient who was afraid to have me use the bur by revolving a small bur between my fingers. Of course it would not hurt the soft tissue, but that would not be the case if the finger-nail or bone were touched. I believe one can readily feel when one is nearly through the bone, and that the sense of touch would be a better guide than anything else. Any one who has had any experience with the dental engine must know what I mean, and what Dr. Cryer means when he says he can tell when he is almost through the bone.

Dr. Jarvie: There was one point in the paper that attracted my attention, which related not so much to the use of the engine as to its history. I think Dr. Cryer said the first knowledge he had of the dental engine being used for surgical purposes was in 1875. A year prior to that Dr. Arthur Mathewson of Brooklyn, an oculist and aurist, came to me and said he had a patient who had an osseous tumor in the auditory meatus. He thought I might have some cutting instruments that were finer than anything he had. I suggested the use of the dental engine, and made a number of burs, taking the ordinary fissure-bur and grinding it to the desired point. The operation was performed by drilling with a fissure-bur through the center of the tumor, then using a larger bur of the same kind; into the opening thus made a round bur was passed and the tumor burred away, from the center outward. That was certainly twenty-one or twenty-two years ago. The operation was successfully performed, the patient's life saved, and the hearing restored. I am speaking from memory, but, while I think I am correct, the date may not be exact.[1]

Another very valuable use to which this surgical engine could be put, and which has not been spoken of, is in removing necrosed bone, either of the long bones, or in any part of the body. With large burs in the engine, the necrosed bone could be burred away and the soft tissues disturbed but little. Certainly the simile that was made use of in the paper, —the difference of travel in a Pullman car and a canal boat, would be applicable to the removal of necrosed bone by the use of the engine in comparison to performing the same operation by the ordinary method.

Dr. Cryer: If in operating there are any sharp edges or points of bone left, as is sometimes the case in the removal of the superior maxilla, the finger can detect them, and the instrument can be carried in along with the index-finger, and the roughness be cut away. The instrument will not cut the finger unless it becomes caught between it and the bone. Crevices were left by the old-fashioned method of removing the superior maxillary bone, and germs of disease had ingress to the parts; but by the use of the engine these rough and deep depressions are avoided, leaving the parts even and smooth.

Recent Roentgen-ray Discoveries.—Professor Friedrich of Vienna is reported to have discovered certain black rays, called "critical rays," that issue from the Crookes tube, which, when passed through a living hand, present the skeleton as in the usual Röntgen photograph, but when passed through that of a cadaver present the fleshy tissues, while the bones remain invisible. The suggestion is made that this may prove a positive test of life or death, and thus obviate the possibility of premature burial.

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[1] Examination of the records shows that this operation was performed in May, 1876. It was reported in full by Dr. Mathewson before the first Congress of the International Otological Society, held in New York, September, 1876, and was published in the Transactions of that Congress, pp. 86-90.

In a note received recently from Dr. Mathewson, he says: "The report of the operation received very flattering notices in the medical journals and reviews, both here and abroad; has been mentioned in every standard work on the ear published since; and this method of dealing with those bony growths in the ear has been generally followed."

TUMORS OF THE MALE BREAST.[1]

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THE subject of tumors of the male breast is of interest because of its rare occurrence. Many physicians of large and varied experience have never encountered this pathologic condition. It is generally conceded by surgical writers that the forms of breast tumor met with in women are also to be found in the male breast. Although the literature is not voluminous, both innocent and malignant tumors of all types have been described in this connection. Perhaps the most elaborate statistical study of these tumors has been made by Shuchardt, and the results published in the *Archiv für klinische Chirurgie*, vol. xli. He collected 469 cases of tumors of the male breast. He found that fifteen per cent. of all tumors occurring in the body appear in the breast, while only one per cent. of breast tumors occur in the male. W. Roger Williams published in the *British Medical Journal*, vol. ii, 1892, the statistics of Middlesex, University College, St. Thomas', and St. Bartholomew's Hospitals of London, covering all primary neoplasms which had appeared during periods of from sixteen to twenty-one years prior to 1889, in these hospitals. There were in all 13,824 primary tumors, and of this number, 2,422 (or 17½ per cent.) were located in the breast. Twenty-five were in males and 2397 in females. It appears, therefore, from this large list of primary growths that the female breast is subject to tumor visitation one hundred times oftener than is the male. This group of cases, collected by Dr. Williams, includes 4597 cases of neoplasms in the male. Studying the relative frequency of site of occurrence of tumors in various parts of the body, we find that the male is afflicted most frequently with those affecting the skin—16.4 per cent. of his tumors occurring in this structure. Next in frequency is the tongue and mouth. Here 15.9 per cent. occur, while neoplasms of the mamma occur in but one-half of one per cent. of the cases.

The disposition to malignant tumors in the human body is nearly twice as great as it is to innocent ones. In the breast, an enormous disproportion is manifested, for here 81.7 per cent. of all tumors are malignant and only 18.3 per cent. benign. It is interesting in this connection to study the influence of sex upon the particular kind of tumor found in the breast. In the table of Williams, 2422 consecutive primary breast neoplasms were included. Of this number, in the male there were 16 cancers as against 1863 in the female. Three cases of sarcoma were found in the male and 92 in the female. Of myxomata, peculiarly enough, each sex exhibited 2 cases. Fibro-adenoma occurred once in the male, and 372 times as frequently in the female. Cystoma put in an appearance in the male once as against 63 times in the female. It is very evident, therefore, that primary neoplasms in the male breast are not of common occurrence. Writing in 1880, Billroth said, in the *Deutsche Chirurgie*, that fibroma, cystosarcoma, and adenoma, as far as he could learn, had never occurred in the male breast. On the other hand, he had encountered personally 7 cases of carcinoma in the breast of the male, as against 245 in the female. Their usual period of occurrence was after the fiftieth year. As far as he could determine, their course was exactly as it is in women. Sooner or later the axillary glands became involved, and death resulted after the same manner in both.

The breast gland in the male is smaller than in the female, and, being rudimentary, tumors involving it should be discovered at an earlier period. Being earlier discovered, radical measures can be applied sooner, and there should be a more hopeful outlook for them than is the case in the female.

Wagstaff, studying the question of the time of life at which cancer appears in the breast of the male, reports, in vol. xxvii, of the "Pathological Society's Transactions," 61 cases, in 40 of them the age being mentioned. Six were under the age of forty, 20 between forty and sixty years, 7 between sixty and seventy years, and 7 over seventy years. Other tumors have been found at a much earlier period in life. Thus Bryant, in his work on "Diseases of the Breast," reports the case of a male child ten months old, with a hard tumor, the size of a walnut, of four months' standing and rapid growth, located above and to the outer side of the left nipple, and freely movable upon the parts beneath, although the skin was adherent to it. It was excised at Guy's Hospital, July 22, 1874, and found to be a lipomatous adenofibroma. Dr. Thorburn described, in vol. i, 1890, of the *British Medical Journal*, a fibrous tumor, which he removed from a boy aged eleven. When first seen it was of the size of a hazelnut, but in the course of one year had grown to the size of a small orange. Authentic cases of carcinoma of the male breast, occurring at the age of thirty, have been reported by several observers, although a careful study of the recorded cases indicates that carcinoma appears a little later in life in the male than in the female; that is to say, rarely before the fiftieth year. It has been my fortune to encounter neoplasms in the male breast three times. A study of these cases may be of interest.

CASE I.—*Epithelioma:* M. T., aged seventy, a

[1] Read before the Onondaga County Medical Society, Syracuse, N.Y., January 5, 1897.

retired merchant, had always enjoyed good health. On September 18, 1888, he visited me, and said that for the preceding three months he had noticed a slight scab forming upon his left nipple. Beneath it there had been a sore. On the date mentioned, I found a tumor as large as a hen's egg, more nearly round in shape, movable, and non-adherent to any of the surrounding structures. It was surrounded by a rather extensive area of induration and its base was infiltrated. There were some enlarged glands in the axilla. On the 26th of September, 1888, a circular incision was made, the tumor removed, and with it a considerable amount of muscular tissue. The incision was carried well around the tumor, into apparently healthy structures. Drainage was employed, union was complete, and the wound firmly healed by the 3rd of October, one week after operation.

The patient wore a woolen undershirt after his recovery, which, by rubbing against the skin, produced an erythema. This subsided under the protection furnished by dressing the chest with cotton and a carefully applied bandage. On the 13th of May, 1889, he consulted me again. A slight scaly eruption had appeared upon the inner extremity of the scar, and the skin had become quite irritable. On the 4th of July, when I next saw him, an ulcer had appeared, with evidences characteristic of its carcinomatous character. To this, zinc chlorid paste was applied, and two days later re-applied. After the expiration of a week, healthy granulations appeared, but from this time on small superficial ulcers would appear at intervals at various points, which were treated with pyrogallic acid. The disposition to repair was never marked; on the contrary, new superficial ulcers persistently appeared, until ultimately a large area of ulceration had again formed. Repeated efforts were made by means of minor surgical operations and the application of various escharotics to cure the diseased condition, but all to no avail. Not only did the disease manifest itself locally, but the patient grew quite helpless because of painful manifestations in various parts of the body. The glands in the axilla became badly infected, and the arm swollen and edematous. The patient ultimately succumbed to the disease, death occurring October 11, 1890, two years and three months after its first manifestations.

CASE II.—*Sarcoma:* J. M. G., widower, aged seventy-seven years; had been a laborer, but for several years had not been engaged in any work. There was no family history of malignant disease, nor personal history of syphilis. He was unable to definitely state when the first symptoms of the tumor appeared. On the 17th day of January, 1891, I was requested by Dr. Mumford to see him, and found an irregular nodulated tumor of the right breast, adherent to the skin, but still movable below, with glandular involvement of the corresponding axilla. The tumor was about four inches in its long diameter and three in its transverse. The general health of the patient was unimpaired. His blood vessels were somewhat atheromatous. On the following day I removed the breast and its tumor, making a circular incision, going wide of the tissues apparently involved, and clearing out the axilla, as I then believed, absolutely. There was considerable bleeding, and a number of vessels required ligation. The resulting cavity was large and drainage was required. The patient made an uneventful recovery, and was discharged from my personal care on the 1st day of February, two weeks from the time of operation.

I did not see him again for a year, when he called upon me at my office, and I found a small movable glandular growth in the axilla. I advised a second operation, but the patient refused. The gland increased in size very slowly, and new points of infection appeared in the arm-pit. It was not until the 20th of February, 1894, more than three years after the primary operation, that I was called to see him again. The malignant infiltration had then developed into a mass, which not only occupied the axilla but reached over to the chest anteriorly, and posteriorly to the scapula. The axillary veins and lymphatics were compressed, and, in consequence, the right arm and hand were edematous and darkly discolored. The patient was suffering intense pain. He was quite anxious to have me perform another operation. This idea, of course, could not be entertained. From this date he failed steadily, and died soon after, four years subsequent to the primary operation.

My impression at the time of operating on this patient was that we had to deal with a scirrhus of the breast, as the growth presented the ordinary clinical manifestations. I was particularly led to make this diagnosis because of the presence of secondary glandular tumors in the axilla, but the pathologist of the hospital reported that it was a large spindle-celled sarcoma. The slow course of the case after operation, it seems to me, furthermore confirms this view.

CASE III.—*Fibro-Adenoma:* E. M. R., aged fifty-two, married. Negative family history. On October 27, 1896, he called upon me and gave the following personal history: He had always enjoyed good health. In December, 1895, while convalescing from a broken leg and moving about on crutches, one of his crutches slipped, striking him in the left breast. Some time during the following spring, he noticed a small tumor in the breast, which was movable, of irregular outline, and not painful. Its growth had been quite rapid. When I saw it, at the above-mentioned date, its texture was firm, it was still freely movable, and not covered with large vessels. There was no glandular infection of the axilla. At the date of my examination it was about 4½ inches in its long diameter and 3 in its transverse. Its removal was advised. On the 4th of November I operated, making an oval incision. The tumor was readily dissected from the pectoral muscles, as it was not adherent to them at any point. The axilla was opened; there was but little fat, and no glands were abnormally enlarged. However, I emptied the axilla completely. Nowhere was there any suggestion of malignancy. The wound was readily closed.

I placed silkworm-gut drainage in the wound, using about one dozen strands.

He bore the operation poorly, and required strychnin and digitalis hypodermically, but after a few hours rallied. There was never any rise of temperature after the operation. His urine was retained for several days, and a catheter had to be used. He was able to leave the hospital ten days after operation.

Microscopic examination of the tumor showed it to be a fibro-adenoma.

While this list of cases is not large, it represents, I think, a larger number of tumors in the male breast in comparison with the number of tumors of all kinds that it has been my privilege to see, than should have been my due proportion, for, as will be recollected, out of the 13,824 cases, reports of which Williams was able to collect in the London hospitals, and to which I have referred, but twenty-five times in this large group was the male breast involved. It will be observed that both of the cases of malignant tumor which I here report, occurred after the seventieth year of life. In neither was the course rapid, nor did the advanced age of the individual seem to render the disease more malignant. To what extent the very painful manifestations in parts of the body remote from the diseased area were awakened by the cancerous infection in Case 1, I cannot say. There were no evidences of malignant disease of the spinal cord, nor of secondary growths at any of the painful sites.

Koenig calls attention to the frequent occurrence of epithelioma in the nipple of old men, although Billroth, in the article from which I have already quoted, states that he had never seen such a case, nor had he found in literature a reliable record of any. No doubt many of these cases begin with that eczematous affection described as "Paget's nipple." I have, however, found the record of a number of cases, in which true epithelioma has destroyed the nipple and breast of the male, and has been followed by cancerous invasion of the axilla, and in consequence of which the individuals have died of cancerous cachexia. Sarcoma of the breast seems to occur about one-fifth as frequently as cancer. While the latter attacks the male breast once where it does the female one hundred times, sarcoma in the male seems to occur about one-third as frequently as in the female.

I cannot but feel that, had I been allowed in my second case to remove the secondary growth one year after the primary operation, in view of the slow progress made by the disease after this period, we might still have had a successful termination to our operative work, despite the advanced age of the patient. Fibro-adenoma appears to be the most rare condition encountered, as in the large list of cases which I have quoted it occurred but once in the male breast as against nearly four hundred times in the female. While tumors of the male breast, as is apparent, present no unusual features except as to their rarity, I have felt it wise to add these cases to the rather small list in our surgical literature.

THE PREVENTION OF THE SPREAD OF CONTAGIOUS DISEASES.[1]

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THE wide existence of contagious diseases, their fatality, and their crippling after-effects makes the subject of prevention of the greatest importance. The question can be attacked with more chances of success now that bacteriology has thrown so much light upon the causation of disease.

A word about infection and contagion may not be inappropriate. According to Prudden, an infectious disease is one which is caused by the invasion and reproduction within the body of pathogenic microorganisms—not necessarily an invasion by bacteria, because, in one case at least, malaria, the invading pathogenic microörganism is not a bacterium, but belongs to an entirely different class. According to the same author, the contagium in any infectious process is the particular pathogenic microörganism itself, the advent of which in the body ushers in those reactions of the body cells which we call disease. An infectious disease is contagious when its contagium, that is, the microörganism which causes it, *under the ordinary conditions of life* can be freed from the body of the diseased person, and, by whatever means, conveyed to the body of another in a condition capable of lighting up the disease anew. The particular contagia of contagious diseases may be given out from the mucous membranes, from the skin, or from the various discharges of the body. The prevention of contagious diseases can only be secured by attacking the virus at its source before it has had time to disseminate itself by means of the atmosphere, or water, or in the earth. Infectious diseases may thus prove slightly contagious, or widely contagious, according to the active means taken to destroy the virus as nearly as possible at its source. Hence, the degrees of contagiousness or communicability can be influenced by the physician's art, and it is his duty to exert all the means known to science in such a direction.

A knowledge of the natural history of any given contagious disease, and the sources and life-conditions of its contagium, will best indicate how the

[1] Read at a stated meeting of the New York Academy of Medicine, January 8, 1897.

virus may be rendered innocuous and unable to spread. This may prove comparatively easy in some cases, and almost impossible in others. Thus it is well known that the virus of scarlatina and diphtheria cling to the patient, and direct contagion from these diseases is therefore limited to a very small area, probably one or two feet; but they are essentially portable diseases, and antiseptic inunctions of the skin in the former, and frequent antiseptic gargles in both diseases should be employed to prevent a dissemination of the virus. Measles and pertussis, on the other hand, have volatile poisons, and therefore are not so easily confined to a small area. The subject of proper and complete disinfection is one beset with difficulties in the present state of science, as modern bacteriology has taught us that disinfectants do not disinfect. All germs being in intimate contact with protoplasm, they are with difficulty reached by the disinfecting agent. The cell body of a bacillus is surrounded by a substance resembling cellulose, and this, in turn, by mucoid matter, hence they collect in masses that are difficult to penetrate. The disinfectant is apt to come only in contact with the outer substance, and thus bichlorid of mercury, for instance, becomes innocuous by forming an albuminate of mercury. In order to kill, the disinfectant must come directly in contact with the microprotein, or albuminous constituent of the bacillus. Citrate of silver (1–4000) has recently been stated to be a true disinfectant, as have formalin and methyl violet (pyoktanin). According to McFarland, the value of antiseptics, like that of disinfectants, is always relative, the destructive as well as the inhibitory power of the solution varying with the microörganism upon which it acts. The following table from Baer will illustrate this:

METHYL VIOLET (PYOKTANIN).

	Arrests.	Kills.
Anthrax baccillus.....	1–70,000	1–5000
Diphtheria.....	1–10,000	1–2000
Glanders.....	1–2500	1–150
Typhoid.....	1–2500	1–150
Cholera spirillum.....	1–30,000	1–1000

I have used a spray of methyl violet in weak solution with good results in a case in which bacilli persisted in the throat after diphtheria, and when it was extremely important for the patient to see many people. Although bacilli have not been demonstrated in many contagious diseases, their virus will probably respond to disinfectants in the same way. It seems best, in the present state of our knowledge, to constantly apply some antiseptic or so-called disinfecting agent as nearly as possible to the source of the poison, and thus prevent a multiplication of the virus, ending with boiling or burning as many of the objects as possible that have been in contact with the patient during the progress of the disease.

Mr. Thomas F. Raven, in the *British Medical Journal* of July 24, 1886, states some interesting facts, to which my experience has usually lent corroboration. He says: "A short incubation period precedes, as a rule, a sudden, sharp illness, which will run either a short or a long course, with a long-continued infective power, being often prolonged by relapses, and having sequelæ of a definite and important character. It may thus be regarded as an axiom that the duration of incubation and the duration of infection bear an inverse ratio to each other. Again, when the incubation of a disease is long, the infection, even the most powerful infection, is developed early in the course of the malady, and ceases early. When the incubation period is short, the disease does not, as a rule, exhibit its effective power so soon, and there is a time, even after the complaint is declared, when the danger of communication is small. The rule, then, is: Long incubation, early, short-lived infection; short incubation, late and long infection. Exceptions prove the rule; hence, there is always a possibility of variations."

The subject of the prevention of the spread of contagious disease divides itself into (1) what may be accomplished by the attending physician, and (2) what may be attempted by the State or municipality. To the physician himself the subject is beset with difficulties, as ideal home conditions are not often found. In a private house it is well to place the patient on the top floor, where complete isolation from the rest of the family may be comparatively easy. Having isolated the case, the virus must be destroyed at its source, according to the nature of the disease, and not be allowed to disseminate itself. All superfluous articles should be removed from the room, and a sheet wetted with some disinfecting solution may be tacked over the doorway. While it is not contended that a sheet occasionally so wetted is a germ-proof barrier, it yet serves a purpose in more completely shutting in the sick room, and serves as a sort of danger signal to those without. The nurse should not mingle with the members of the family, and when she leaves the house for fresh air should change her clothing before going out of the room. The details to be observed in each case vary according to the nature of the disease. The room should be kept warm enough to allow a constant supply of fresh air to be procured by dropping one of the windows a little from the top. This will not only have a favorable effect on the patient by

diminishing the chances of his own reinfection, but it will lessen the risks to the attendant. The greatest difficulty is met with in small apartments and tenement houses where the rooms are few and open into one another. Where the mother of the family has to do all the work she should have a loose wrapper to draw on in the sick room, which may be discarded on her exit. It is better to have the patient on a cheap cot which can be afterward thoroughly cleansed or destroyed, rather than upon a bed or sofa which will be difficult to free from germs. Any discharges from the nose, mouth, ears, or skin should be collected upon rags, or cheese-cloth, which should at once be burned. This valuable precaution can easily be taken in the most restricted apartments, and yet is often neglected.

The question of when to allow a convalescent patient to mingle with others without the fear of infection is an exceedingly difficult one to answer, especially in the case of diphtheria. The Klebs-Lœffler bacilli may remain in the throat, as is well known, for months after even a mild attack. I have, however, never seen a case in which infection followed such persistence of the bacilli. After the end of a week or two, particularly when disinfecting gargles are employed, it hardly becomes necessary to maintain the patient in quarantine.

The germs of many diseases, notably scarlatina and diphtheria, remain long dormant in apartments; hence the necessity for thorough cleansing and disinfection. All clothing, bed-linen, etc., that has been in contact with the patient can be soaked in the solution recommended by the New York City Board of Health, *i. e.*, sulphate of zinc, four ounces, common salt, two ounces, water, one gallon. This solution is cheap, and easily procured, and may be kept constantly standing in the room. Spoons, cups, and all feeding utensils can likewise be soaked in this solution, but all articles after being taken out must be subjected to thorough boiling. Quilts, comforters, pillows, etc., may be thoroughly shaken on the roof, and then exposed for hours to the fresh air and sunlight. The two latter factors form the most harmless, but complete disinfections that are known. The furniture, floors, walls, and ceiling may be washed with carbolic acid, 1–20, or corrosive sublimate, 1–1000. These two disinfectants frequently fail to be effective because of too weak solution. The same preparations may be used to flush out sinks and water closets, as it is best not to multiply solutions. If the walls are papered they may be rubbed down with stale bread crumbs, which, bacteriologists have taught us, collect the germs. The same may be done to the ceiling. With reference to sulphur fumigation, although bacteriologists state that the fumes of sulphurous acid do not destroy spores, it has always seemed to me well to employ this procedure when possible. It certainly has the effect of sweetening the air of the room, and some practical workers in boards of health think it does good. A free application of moisture in the room increases its efficacy. The thorough airing required after the combustion of sulphur in a room may be a not unimportant factor contributing to its good effect. An ideal way of disinfecting carpets and other articles consists in steaming, and in large cities there are facilities for this practice.

When a contagious disease invades a family living in a limited apartment where complete isolation is difficult, if not impossible, the well children should be removed, if there is any place to take them to, until the illness is over and the quarters have been disinfected. This, however, is just what cannot be done in the great majority of instances, as no one wishes to harbor these poor children. To meet this dilemma, a few years ago the Committee on Hygiene of the New York County Medical Society suggested that stations or refuges be established where such children could be housed until the sick at home had either recovered or been removed, and the domicile disinfected. Houses arranged for such purposes ought to contain dormitories, and private rooms for such as could afford to pay for better accommodations. If the city authorities could be induced to establish a few such houses in various sections under the control of the Board of Health, which would transport cases upon notice from a physician, a powerful agency in preventing the spread of contagious diseases would be established.

Probably the most powerful factor in the spread of contagious diseases among children is found in the public and parochial schools. The sanitary condition of these buildings in the poorer sections of the city is bad. All the elements favoring a spread of contagion are here found. The children are crowded together in small rooms that are very poorly ventilated. Not only is the ventilation defective, but the cubic air space allowed to each pupil is insufficient. In the three lower classes of the primary schools the prescribed allowance of space to each pupil is 70 cubic feet; in the three higher grades, 80 cubic feet; while in the four lower grades in the grammar schools the allowance is 90 cubic feet, and in the four higher grades, 100 cubic feet. The Board of Health requires that in tenement houses the allowance shall be 400 cubic feet, and in some cases, 600 cubic feet, to each person. Four hundred cubic feet are required for each lodger in the lodging houses in this city. With a low allowance of

air space to each child there is no suitable way in the old buildings of letting out the exhausted air and letting in fresh air in its place. It is obvious that even with a generous allowance of cubic air space if there is no way of removing foul air a room crowded with children will soon become close and stuffy, and any poisons that may be generated will become active.

In my opinion, however, one of the most powerful factors in the spread of contagion in these schools consists in the arrangement of the wardrobes, and in the lack of proper places to hang wraps and cloaks. Some of the class-rooms have narrow wardrobes at the back, where the clothing is shut in; in others the clothing is hung directly upon hooks on the wall. In a few cases the back seats are used for this purpose. Damp and dirty outer clothing should never be kept in a school-room crowded with little children. If any of these articles of clothing are infected with germs of disease, especially scarlatina or diphtheria, all the adjacent garments are liable to become infected. Much care and thought should be spent on the best means of disposing of the outer clothing of children during school hours. Whenever possible proper drying and ventilating rooms should be provided. In the schools that house the poorest children, where the danger of contagion is greatest, the sanitary conditions are the worst, as the writer has repeatedly demonstrated.

That the schools are active agents in the dissemination of contagion is proved by a recent report of Dr. George S. Lynde of the New York City Board of Health. According to this report, epidemics of measles, diphtheria, and scarlatina were directly traced to certain schools. Thus, out of thirty-seven cases of measles investigated during three weeks last October, in a restricted neighborhood, thirteen were traced to a parochial school, two to a public school, and seven to a kindergarten.

Certain recommendations made by the Board of Health for application to these schools will do much good if carried out. Thus, the use of slates, slate-pencils, and sponges shall be discontinued. According to requirement, pupils shall be supplied with pencil and pen-holder, each pupil to retain those received in a box provided for the purpose, each box to be marked with the pupil's name. Pencils and pen-holders shall not be transferred from one pupil to another without suitable disinfection. All school property left in a school building by a child sick with any contagious disease, and all such property found in an apartment occupied by a family in which a case of smallpox, typhoid fever, diphtheria, scarlet fever, or measles has occurred shall be taken by the Health Department for disinfection or destruction. Books which are taken home by pupils shall be covered once each month with brown manilla paper. Places for drinking water on the ground floors of school buildings shall be discontinued, and a covered pitcher be provided for each class-room, in which fresh water shall be placed before every session. A numbered cup, to be kept in the class-room, shall be issued to each pupil, and no interchange of cups shall be allowed. The floors, doors and door-knobs, and the stairs and banisters of school-rooms shall be washed with washing-soda solution (half a pound of washing-soda to three gallons of water) at least once each week.

The Board of Education should require that all buildings hereafter constructed for use as school buildings shall be provided with sufficient closet space to accommodate without crowding the outer garments of all pupils attending the school, this closet space to be arranged so that it can be well and easily ventilated when full of garments, and that the ventilation be into the corridor or outer air, and not into a school-room. A recent undertaking of the Board of Health consists in having the schools under the observation of medical inspectors. Much good will doubtless be accomplished in this way.

MEMORANDA RELATING TO THE WORK OF THE MEDICAL INSPECTORS OF SCHOOLS.

1. It shall be the first duty of the teachers of the different classes in each of the public and parochial schools of New York City to select every morning from their pupils those who seem to be ill or not in good physical condition, or those whom they have reason to suspect have been in contact in their families, or otherwise, with persons suffering from contagious disease. These children shall be at once separated from the remainder of the class and sent to some room set aside for this purpose for examination by the medical inspector of the school. They shall be examined by the inspector immediately after the beginning of the morning session, and the respective teachers shall then furnish to the medical inspector any special information that they may have regarding their own pupils, and shall also leave with him each day a list of the absentees from their classes, with the cause for the absence, so far as known, and the addresses of the absentees, with the time that they have been absent from school.

2. It shall be the duty of the teachers in each class-room before re-admitting to school any child who has been absent for forty-eight hours or more because of illness, or for any other cause, to refer such child to the medical inspector for examination, furnishing at the same time such information as may be in his or her possession.

3. It shall be the duty of the medical inspector of schools to carefully examine all children separated by the teachers for any reason from the rest of the class, and all those who have returned to the school for re-admission. Every child who is found to be suffering from any contagious disease, such as scarlet fever, measles, diphtheria, whooping cough, mumps, chickenpox, smallpox, typhus or typhoid fever, and any contagious skin disease, or contagious disease of the eyes, or who is infected with body vermin, or who is too ill from any other cause to properly remain in school, shall be at once sent to its home.

4. The name and address of the child, with the record of the action taken, and the reason for it, shall be properly recorded, and a copy forwarded each day before 1 P.M., by mail, to the chief inspector of contagious diseases.

5. Any child sent to its home because of illness shall be furnished with a card, stating the facts, and instructed to present this card to its parents or guardians immediately on its return home.

6. If any child who has thus been sent home for contagious disease returns to school the following day, the same action shall be taken by the teacher and physician, and the chief inspector of contagious diseases shall also be notified, and a postal card with the facts relating to the case shall be mailed to the parents or guardians. Each medical inspector of schools shall forward daily to the chief medical inspector of schools a list of absentees furnished him by the various teachers in the class-rooms, and a copy of his record book, showing what action he has taken during the day, and this shall be mailed in each instance not later than one o'clock of each day.

7. If any pupil is found suffering from any of the following contagious diseases—scarlet fever, measles, small-pox, typhus fever—and the pupil's home is at such a distance as to make it impracticable, or improper, to walk, the department shall be immediately notified and an ambulance, or conveyance, will be sent to remove the pupil to its home.

8. The medical inspector shall in every case where children are suffering from sore throat take a culture of throat secretions, and forward it at once, with the name and address, to the Division of Bacteriology. Where children have been excluded because of illness, before re-admission to the school, the medical inspector shall make careful examination and question the pupil closely as to the nature of the illness, if information is not already at hand as to this, and shall, under no conditions, re-admit the child to school unless entirely freed from danger, and unless, in case of contagious disease, the child furnishes the proper school certificate.

9. The medical inspector shall be responsible for and shall supervise the disinfection of desks, seats, writing utensils, etc., of pupils who are absent from school because of contagious disease, and shall see to the proper disinfection of books.

10. The medical inspectors of schools shall be held personally responsible for the existence, or extension, of epidemics of contagious disease of any kind in their respective schools, and shall, in addition to the duties described, take all necessary precautions, and use all the means required, to obtain necessary information relating to the illness of pupils, and to the methods of extension of contagious disease in their respective schools.

Finally, the dispensaries of this city contribute very largely to the spread of contagious diseases, especially among children. This is a feature of the dispensary evil that seems to have escaped notice. Children having mild attacks of diphtheria, as well as scarlatina, measles, and pertussis, are first brought in public conveyances, and then allowed to sit among other children until the physician in charge discovers the nature of the malady. Very few dispensaries have proper waiting-rooms, or take efficient means to avoid this great evil. It is a good subject for investigation by the Board of Health.

SPLITTING THE KIDNEY CAPSULE FOR THE RELIEF OF NEPHRALGIA.

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PAIN in the kidney usually denotes a gross lesion, the character of which is indicated by other manifestations. Hydronephrosis, cystic disease, and impacted calculus, are the least painful of the surgical diseases of the kidney. On the other hand, pyonephrosis, suppurative nephritis, perinephritis, perinephritic abscess, tubercular disease, and tumors, and calculi in the pelvis of the organ, commonly produce severe pain. The presence of pain in the kidney aids in locating the site of the lesion. A glance at the known distribution of the nervous supply shows that the pelvis and capsule are sensitive, whereas the parenchyma is singularly insensitive, as evidenced by its ability to undergo complete destruction, without pain, while the most trivial injury to or irritation of the pelvis or capsule will provoke violent pain. We infer, therefore, that when pain is a pronounced symptom in any lesion of the kidney, the pelvis or capsule is encroached upon.

In any of the conditions I have mentioned, where pain is a symptom, there are other symptoms and physical signs concomitant with pain, which usually enable the surgeon to determine the nature of the malady. Occasional cases are encountered, however, in which pain is the most prominent symptom and where no physical signs or urinary changes exist to lead to a conjecture that organic changes are taking place in the kidney. Collateral organs are frequently involved in this pain, such as the bladder, penis, and testicle. Such cases simulate a condition involving a demonstrable lesion, such as renal calculus, vesical calculus, and the like. Scrutinizing and repeated examinations fail to verify such an assumption, for the urinary changes and physical signs ordinarily associated with the suspected lesion are absent. I know of no condition of the pelvis provoking sufficient pain to call for surgical investigation that would not afford abundant evidence of an inflammatory or mechanical injury competent to account for the existing pain. Such is not true of pain arising from an irritation of the surface of the kidney or its capsule. Here, violent pain may exist, with complete disassociation of all other evidences of kidney disease.

Medical literature contains reports of many cases operated on for renal calculus where no stone was found, but where symptoms subsided after operation. Here, the pain which caused a simulation of calculus was due to some obscure and undemonstrable lesion

and was relieved by splitting the capsule in searching for the stone. The capsule may have been contracted, the kidney tissue swollen and tense, or some other state existed which caused irritation of the sensory nerves of the capsule, producing the misleading pain without any actual structural change in the tissues themselves. I am constrained to believe that such cases are not altogether rare. I have seen reports of two such, and three others have been reported by Dr. L. M. Tiffany of Baltimore. Two of these were included in a paper read by him before the American Surgical Association, and published in its Transactions for 1889. The third, in a patient of Dr. Trimble of Baltimore, the report of which was communicated to Dr. Tiffany, and a fourth, which I reported to him, were incorporated in his paper on "The Surgery of the Kidney," read before the same society, and published in its Transactions for 1894.

CASE I.—The first case that I wish to report was referred to me by Dr. W. H. Barham of Southampton Co., Va. The patient came with the diagnosis of probable stone in the kidney. He was a man, twenty-six years of age, a farmer by occupation, slender, and pale, and his health had never been robust. At the age of ten he had had a painful attack resembling renal colic, and another some two years later. Ten years previously to my seeing him he began to complain of pain in the right loin. This pain soon grew so severe and constant as to incapacitate him from his routine work. Besides this incessant pain he had some paroxysms of excruciating pain apparently in the right kidney, extending down the ureter, which resembled renal colic. At these times there was some retraction of the testicle on the right side, and very frequent urination. No stone was ever passed. He likewise suffered pain in the bladder. At the time he presented himself to me he was in the habit of inclining the body forward and to the right when standing or walking, so as to relax muscular pressure on the kidney. When he laid down, he flexed the thighs on the abdomen for the same purpose. It required several minutes for him to rise from recumbency. All of his movements were characterized by the greatest deliberation and slowness, and all looked to the protection of his right kidney. Palpation revealed the right kidney slightly enlarged, somewhat firmer than its mate, and exceedingly tender. He winced perceptibly when bi-manual pressure was made on it.

Up to this point his history was identical with that of nephrolithiasis. Careful and repeated examinations of the urine alone furnished a peg on which to hang a doubt. In cases of stone in the kidney, the urine presents the following characteristics: There is nearly always some hematuria. When blood is passed the amount is usually not large, but is generally constant, and is increased by exercise; it is intimately mixed with the urine, and gives to it a smoky brown color; the urine is highly acid and usually diminished in quantity; pus is always present, but may be very small in quantity, due to simple irritation. If infection of the kidney occurs, the amount of pus is greatly increased. Epithelia from the pelvis of the kidney can be made out by microscopic examination. Crystals of the salts that are in excess, and which probably compose the calculus, are usually present; occasionally portions of the calculus are passed. None of these conditions of the urine was ever present in this case. The urine was absolutely normal. Thus I was forced to the belief that no stone existed, or if one was present, that it was imbedded in the substance of the kidney and was not free in the pelvis. I regarded it as a case of nephralgia simulating stone. Nevertheless an exploratory operation was demanded.

I placed the patient face downward on the operating table as being the best position to facilitate exposure of the kidney by incision. The Edebohls cushion was put under his dependent side, and the illiocostal space of the afflicted side thus elongated. An incision was made along the outer border of the erector-spinæ muscle, commencing just below the last rib, carried to near the crest of the ilium, and deepened until the perirenal fat was reached. This was torn through and the kidney exposed. A few sweeps of the finger were made around the kidney to free it sufficiently to permit its partial delivery through the wound. Inspection showed the kidney to be somewhat enlarged and the capsule mottled. Palpation revealed a firm, tense, and unyielding condition of the organ, but nowhere was there a hard mass such as would be produced by a stone. The thumb and finger compressed the pelvis between them and nothing except the pelvis and upper portion of the ureter separated them. No foreign body could be felt. The ureter for a short distance was also palpated and found to be free from obstruction. To make the search complete I took a slender, sharp, round needle and passed it into the kidney at many points, so that if a stone were present it could be detected when the point of the needle impinged upon it. Nowhere did I find a stone, but from every puncture the blood spurted freely and to a considerable height. This diligent and thorough search served to eliminate the possibility of a foreign body being present, and confirmed the diagnosis of nephralgia.

I considered the symptoms in this case as arising from a too tight capsule, and I therefore split the capsule from one end of the kidney to the other, and penetrated a little way into the kidney substance as well. This done, the cut margins gaped widely apart, and the kidney tissue bulged into the incision. I placed a rubber drainage tube in the wound, closed it

with deep sutures of silkworm-gut, and dressed it with iodoform gauze. The patient made an easy and uneventful recovery. The pain began to diminish almost immediately, and when he was discharged from the hospital he had been absolutely free from pain for more than two weeks, and was otherwise much improved. A letter received from Dr. Borham several months later said: "The man is entirely well. He has had no pain since his return, has gained more than twenty pounds in weight, and has worked every day during the season in the harvest field."

CASE II.—J. S., of Irish birth, sixty-five years old, carpenter by trade, consulted me in September, 1891. In early life he followed the sea. Had yellow fever in 1850, in Colon, C. A. Ten years ago he was operated on for piles, by ligature, and cured. He had had no other serious sickness, and was temperate in his habits. For some weeks he had suffered from pain in the right loin. It was variable in intensity, but always present, and at times was exceedingly severe. Associated with it were gastric disturbances, irritability of the bladder, and now and then retraction of the right testicle. Frequently the pain followed the course of the ureter, and was occasionally felt in the glans penis. There was tenderness on pressure over the kidney. The assuming of an attitude which relaxed the muscles of the right loin brought some relief. There was some vesical irritation—enough to justify the sounding of the bladder, but this produced negative results. The desire to pass water was quite marked. There was no blood or pus in the urine. Frequent and painstaking examinations of the urine were made, both by me and Mr. Hugh Blair. These examinations, to a certain extent, bore out the opinion I had formed of the case, namely, that I had to deal with a renal calculus. When I became convinced of this, nephrolithotomy was determined on. The operation was performed November 25, 1891. It was conducted with the usual aseptic precautions. The incision by which the kidney was exposed was V-shaped, with the apex upward. On exposure, the kidney appeared larger and firmer than I have usually seen it. Palpation revealed nothing. Numerous punctures with a needle failed to detect the presence of a stone. Through each of the little wounds made with the needle a smart little geyser of brilliant blood welled high up, and the punctures continued to bleed freely. Being convinced now that I had proceeded on an erroneous diagnosis, and recalling reported cases of "capsule-splitting" for painful kidney, I resolved to practise this procedure here. Consequently, a free slit was made in the capsule the whole length of the kidney. This wound gaped widely and the kidney tissue bulged far out. Immediately the bleeding from the needle punctures ceased. A small drainage-tube was inserted, and the flesh and skin wounds carefully closed.

On the evening of the day of operation, after the effects of the anesthetic had entirely passed off, the patient expressed himself as feeling much relieved. His recovery from the operation was wholly satisfactory. The symptoms simulating calculus disappeared. The pain promptly abated, and never returned, and with its disappearance the other distressing symptoms likewise subsided.

CONCLUSIONS.

1. Nephralgia is not always associated with a demonstrable lesion.

2. When other evidences of kidney disease are wanting, the pain is perhaps due to a too-tight capsule.

3. Nephralgia may, and frequently does, simulate symptoms of gross tissue changes or presence of mechanical irritants.

4. When severe and persistent pain in the kidney exists, without other evidences of renal involvement exploratory operation is indicated.

5. When inspection, palpation, and needle punctures fail to disclose a condition sufficient to account for the pain, the capsule should be freely opened.

CLINICAL MEMORANDA.

A CURE BY HYPNOTISM.

BY WILLIAM ARMSTRONG, M.D.,
OF NEW YORK.

THE editorial in THE MEDICAL NEWS of October 31, 1896, pointed out the limited use of hypnotism and the possible injury to the subject by "diminishing his power of self-conscious coördination and direction of effort." Unquestionably this danger is a serious one, and should always be borne in mind by those who practise this method of cure. I am convinced, however, that one occasionally meets with a case of hysteria in which tonic treatment, both physical and mental, proves ineffectual, and the final resort to hypnotism is justifiable. Certainly the general tonic treatment should always be tried first, and tried thoroughly, and the indiscriminate employment of hypnotism as a panacea is to be vigorously condemned.

I submit the following case, in which I am satisfied that hypnotism cured the patient and was in no wise productive of harm:

R. F., aged twenty years, married, and the mother of a child two years old, presented herself to me in May, 1895. She said she had always been well and strong until eighteen months previously when she began to have headache and knocking sounds in her head above the left ear. This headache and knocking had persisted, night and day, for the entire eighteen months, without a moment's cessation, preventing sleep and causing great suffering. She had been steadily losing flesh, strength, and appetite during this period. After her family physician had exhausted his skill in tonic treatment, she had gone to a hospital, where she spent about a month, but with absolutely no relief. She had consulted several specialists, but they only advised general tonic treatment. No specific or malarial history was obtainable.

I found her to be a slight woman, pale and nervous, with all of her tendon reflexes slightly exaggerated. The knocking sounds in the head were apparently rhythmical, but less frequent than the pulse. The physical examination was otherwise negative, as was also the urinary analysis. Examination of the blood revealed eighty-five per cent. hemoglobin.

For several weeks she was given general tonic treatment, but without the first sign of improvement. She ate scarcely anything, and slept only four or five hours out of the twenty-four. I finally resorted to hypnotism. While in the hypnotic state she was told that the headache and knocking had disappeared. Upon awakening she announced with glee that she was entirely free from headache (for the first time in eighteen months!); the knocking, however, persisted. Ten hours later the headache returned with its usual severity. At the next *séance* she was told that the knocking had shifted to the right side of the head, which suggestion was adopted when she awoke. By this time I felt reasonably sure that her troubles were purely hysterical, and determined to make a thorough test of the efficacy of hypnotism as a curative agent. I found, by several trials, that I could not keep the headache away longer than nine or ten hours. I therefore began by hypnotising her three times a day, at intervals of eight hours, making the evening hypnotism after she had retired. In this way she soon fell into the habit of sleeping seven or eight hours every night, which habit was maintained throughout the rest of the treatment. At the same time she was put upon iron and strychnin, and insistance was made that she should eat three good meals a day and take a moderate amount of exercise in the open air. After a week of this treatment, during which time she was entirely free from headache, the hypnotism was applied only twice a day for ten days, then once a day for two weeks, then every other day for a month, and so on, gradually lengthening the interval until, at the end of six months, she was being hypnotised but once in two weeks. The treatment was then stopped. The idea of the cautious lengthening of the interval was to retain the confidence of her sub-consciousness. Had the suggestion been made early in the treatment that the headache would remain away for any great length of time, her confidence in the prediction might not have been great enough, and ground lost instead of gained. As it was, the confidence steadily increased with time. Such, at least, was the theory on which I worked, and it would seem to have been borne out by my experience. Every time that the interval was lengthened there was a slight return of the headache at first, but she soon adapted herself to the change. It was not until the third month that I succeeded in ridding her of the knocking sounds in her head, after which there was no recurrence. During the first three months of treatment she gained twelve pounds, and her appetite and color returned. It is now just a year since she was last hypnotised, during which time she has been absolutely free from the headache and the knocking. She is in excellent health, and there is no indication of nervousness or lack of self-control.

A CASE OF IMPERFORATE ANUS; INGUINAL COLOTOMY.[1]

BY FRANCIS H. STUART, M.D.,
AND
J. C. BIERWIRTH, M.D.,
OF BROOKLYN, N. Y.

ANNA MAY B. was born at the Low Maternity, Brooklyn Hospital, on June 4, 1895. Since the second day after birth the baby had shown signs of gastro-intestinal trouble, with restlessness, vomiting of food and bilious matter, and gradually increasing tympanites and marked abdominal distention. The superficial abdominal veins were very large and full. Only one stool had been reported since birth. A quarter of a grain of calomel, followed in half an hour by a dram of castor oil, was administered without result. The rectum was then examined and found to be occluded about one and one-quarter inches above the anus. A search with an ordinary probe did not reveal an opening. Examination per vaginam resulted negatively as far as presence of rectum was concerned, and inguinal colotomy was decided upon. A straight incision one and one-half inches long, parallel to and about one inch above Poupart's ligament, was made. On separating the peritoneum the upper part of the sigmoid flexure and a small mass which greatly resembled the appendix vermiformis appeared in the opening. The latter was pushed back, and the angles of the wound were closed with iron dyed silk sutures. The gut was attached to the edges of the wound with continuous sutures of the same material, and afterward incised. As soon as the gut was opened there was a discharge of gas and meconium in large amount, which greatly relieved the distention of the abdomen. The wound was dressed with iodoform gauze.

During the morning of June 8, four days after the operation, the adhesions and sutures gave away, causing the gut to be pushed out of the wound for about two and one-half inches. Anesthesia was produced, the gut was cleansed with a bichlorid solution 1 to 1000, the edges were freshened, and the angles of the wound closed, and the gut attached to the edges of the abdominal wound, fourteen interrupted catgut sutures being employed. Abdominal support of adhesive plaster was applied, and the wound dressed with sterilized gauze and aristol. The child rallied well.

On June 26, the baby was anesthetized for examination and with the view of possible operation. Upon introducing a bullet-probe through the artificial anus, the gut was found to extend about three-quarters of an inch below this opening and to end in a cul-de-sac. The probe could not be felt through the vagina, although this canal admitted the whole of the little finger. The lower pouch was found to have contracted since it was last examined (day of first operation), and measured about three-quarters of an inch in length. On these findings operation was deferred.

On June 30, the artificial anus was of such size as to admit the tip of the little finger, had fair contractile

[1] Reported to the Kings County Medical Association, Brooklyn, May 14, 1896.

power, and was free from erosion and inflammation. Around it were a number of radiating suture-scars. The patient apparently had some power of retaining feces. August 12, being then two months of age, she was transferred to the surgical ward of the Brooklyn Hospital under the care of Dr. Bierwith.

OPERATION BY DR. BIERWITH.

The patient was first seen by me on the first of September, and then presented the following conditions: At the site of the inguinal opening the colon was prolapsed and invaginated in two sections, the lower end about four inches and the upper end about two inches. There was an imperforate anus ending in a blind pouch about one and one-quarter inches in depth from the sphincter. The prolapsed and invaginated portion of the gut showed numerous small ulcerations, was much congested, and bled freely upon touch. The bowel could be reduced without difficulty.

The first operation for the relief of the imperforate anus was done October 15, 1895, chloroform being used as an anesthetic. The operation consisted in pulling down the blind pouch, securing it by two silk sutures outside, which were given to an assistant to hold, and opening it sufficiently to admit the little finger; then the invaginated lower portion of the gut was reduced into the abdomen and its blind end pushed by means of a large gum-elastic bougie toward the anal opening and likewise secured by two lateral silk sutures which were held by the assistant. Then the upper pouch was opened and by means of Lembert sutures united to the opening of the lower pouch. After this, the bowel was flushed from the inguinal opening down through the anus and was found to be entirely patent. Although there was considerable depression from the chloroform-narcosis, the child rallied well on the following day and had no rise of temperature. The bowel was washed through twice daily, and the child fed on easily digested food. October 21st, six days after the operation, the union was found to be perfect between the two ends of the gut, showing an annular constricting band about one inch from the sphincter. This was ordered dilated gently with a well lubricated finger once each day. The bowels continued to move through the inguinal opening.

On November 1st, the first operation to close the abdominal opening was done. I thought this might be accomplished by splitting the skin all around the opening, allowing the bowel to remain attached, and sewing the two parts separately (that is, approximating the edges of the gut), and then by deep sutures to bring the edges of the skin together. I adopted this procedure in order to avoid opening into the peritoneal cavity. On November 3d, the bowels moved per anum. During the night of November 4th the child had a continuous attack of coughing. In the morning some fecal matter was forced through the abdominal opening. November 5th, all the stitches had given away and there was again complete prolapse and invagination of the gut as before the operation. The failure of this operation was due primarily to the hard cartilaginous edges of the wound in which the stitches could not hold, and to the unfortunate severe attack of coughing.

On November 12th, I performed the second operation for the closure of the abdominal opening. This time I concluded to dissect the gut out and away from its cutaneous attachment, taking it outside of the abdomen, freeing it from all cicatricial tissue, and closing the opening transversely by Lembert sutures. This was done without difficulty. Next, the skin-wound was freed of as much of its cicatricial tissue as was possible and then united by deep and strong silk sutures. There had been so much loss of substance that the edges were approximated with the greatest difficulty and the sutures in places considerably constricted the tissues. The operation was of necessity a long one, occupying nearly two hours. The child reacted very poorly from the chloroform, and for several hours I was in doubt whether it could rally. On the following day, in the morning, the temperature rose to 103⅘° F., but in the evening of the same day it fell again to 99⅕° F. The child had rallied well from the operation, had a good pulse, and took nourishment fairly well. The morning elevation of temperature continued for several days (until the 16th), after which date it remained normal. On November 15th there was some sloughing around the edges of the wound at the points of the tight sutures. The bowels moved per anum for the first time two days after the operation and regularly every day after that. At no time was there any tympanitic distention. The skin wound finally healed by granulation at the places where the sloughing had taken place and the child made an uneventful recovery. The anus was dilated every day by the aid of the finger. The child passed from my observation after November 22d, and the history from that time until discharged, February 19th, is extremely meager. I was told by the house surgeon of the Brooklyn Hospital that considerable difficulty was experienced in finding a proper nourishment for the child, and I suggested modified cow's milk approximating as nearly as possible mother's milk. The child thrived very well on this and gained rapidly in flesh. Some time in the beginning of February, several small abscesses made their appearance, one of considerable size being on the scalp, which I lanced at my office on February 19th. The child was then in a very miserable condition, being poorly nourished, and white and pasty looking. She was readmitted to the hospital on February 28th, with a diagnosis of general furunculosis, and died from general marasmus on April 20th.

We were fortunate to obtain an autopsy on the case, which was performed by Dr. J. M. Van Cott, Jr., Pathologist to the Brooklyn Hospital. Aside from the general evidences of malnutrition in all the organs of the body, nothing abnormal was found except a fecal concretion about the size of a pigeon's egg in the sigmoid flexure. The gut was taken out in its entirety, leaving the skin around the anus attached, and also the skin which contained the scar of the former abdominal opening. The gut was firmly adherent to the abdominal wall at this point. There was hardly a trace of a scar left in the gut at the point where the opening was made

for the inguinal colotomy, and notwithstanding the poor condition and sloughing of the skin wound of the colotomy, there was but a trace of the scar in the skin attached to the gut. The line of union and its still existing circular constricting band between the two pouches of the rectum was very clearly shown. I may remark in parenthesis that the fecal concretion found in the sigmoid flexure in no way interfered with the action of the child's bowels which moved two or three times daily after the last operation.

This case is of interest chiefly from the fact that it demonstrates the great tolerance of surgical interference in infants of such tender age. The child was operated upon several times by Dr. Stuart, and at my hands she underwent three capital operations and rallied well from all of them. The case is of further interest in that we are able to show this specimen six months after the first operation, demonstrating the wonderful healing and recuperative powers of infantile tissues.

HOSPITAL REPORTS.

TREATMENT OF TYPHOID FEVER AT THE NEW YORK HOSPITAL.

BY HENRY P. LOOMIS, M.D.,
OF NEW YORK;
VISITING PHYSICIAN TO THE NEW YORK HOSPITAL.

THE Editor of the MEDICAL NEWS has asked me as one of the visiting physicians to the New York Hospital to explain in detail the treatment of typhoid fever employed there during the past year. In ninety cases admitted to the hospital from December 1, 1895, to December 1, 1896, mortality was reduced to less than ten per cent., the former average mortality in typhoid fever, as given by Murchison, being rated at from ten to thirty per cent. It is fair to assume that the rigid system of hydrotherapy, carried out according to the methods of Brand, is to a great extent responsible for these results. The line of treatment adopted may be considered, for better understanding, under certain general heads, as follows:

GENERAL MANAGEMENT.

The patient is confined to bed in a recumbent position and remains there until convalescence is established, never being allowed to sit up. His clothing, with the exception of a linen shirt, is removed. A sheet is used for covering, and in cold weather a blanket is added. The bed is of woven wire with a soft hair mattress covered by two thicknesses of blankets. Bed and body linen are changed daily. Whenever blankets, sheets, or rubber covers become soiled they are removed at once, a nurse and orderlies being in constant attendance. All sheets and other articles that have been in contact with the patient, before being sent to the laundry, are soaked for an hour in a 5-per-cent. carbolic acid solution. The feces as soon as passed are mixed with a 2-per-cent. solution of bichlorid of mercury and allowed to stand an hour. Separate glasses and dishes are set aside for all typhoid fever patients. The nurses and orderlies who give the baths are required to carefully wash their hands with soap, and then with a bichlorid of mercury solution, after serving the patient.

Mouth.—The distressing condition of the mouth and nasal passages, of which so many patients complain, is relieved by a mild solution of some aromatic antiseptic, such as tincture of myrrh, ʒi; sodium bicarb., gr. 20; water, ℥vi. For the dryness of the mouth, dilute phosphoric acid solution is used in many cases (ʒi of the acid to ℥viii of water). A spray of Dobell's solution is used for the nose, and adds much to the comfort of the patient.

Diet.—As soon as the patient is admitted to the hospital he is put upon a milk diet; ordinarily ℥viii of cold milk with a little water added is given every two hours when the patient is awake. Mutton or beef broth is substituted for the milk, three or four times a day. When there is nausea or vomiting, the milk is peptonized; if this fails to control the nausea, oxalate of cerium, gr. v, and bicarbonate of soda, gr. x, are added to each glass of milk. Sometimes pancreatin, gr. iii, and sodium bicarbonate, gr. x, are substituted for the above. In some cases, good results have been obtained by adding gr. v of bismuth to each glass of milk. Ordinary nausea will be controlled by following out these suggestions. If it should not, small doses of morphin or codein may be given. Sips of champagne in obstinate cases will give temporary relief. It is often necessary to reduce the quantity of food and give only one or two ounces every hour until the vomiting is controlled.

Stimulation.—When the condition of the pulse, and the dry tongue, indicate cardiac failure, stimulation is commenced. This often is not until the end of the second week. Many cases pass through the whole course of the disease without any stimulation. When necessary the amount of whisky is increased until from eight to twelve ounces is taken during twenty-four hours. This is generally administered every three hours in ½-ounce doses, diluted with water. Whisky is the only form of alcohol generally used, and when necessary, it is supplemented by sulphate of strychnin in $\frac{1}{30}$ grain doses, ordinarily once in four hours.

TREATMENT OF FEVER.

The routine antipyretic treatment consists in the giving of tub baths. The temperature of the patient is taken every three hours, with the exception of the hours nearest midnight, when it is usually omitted if the patient is asleep. A tub bath of ten minutes' duration is given whenever the temperature reaches 103° F., or above. The water for the first bath is at a temperature of 80° F., for the second 75° F., and for the other baths 70° F.

The patient is lifted by two or more orderlies into the bath, the head being supported while in the bath by a rest which is usually a piece of bandage spread across the tub. The patient's ears are closed with cotton, and while in the bath, ice-water is frequently poured over the head. Two attendants rub the patient gently over his entire body while in the bath. As soon as he is lifted out, and placed upon the bed, which has been freshly made, the patient is wrapped in a sheet and thoroughly dried; this sheet is then drawn aside and he is covered with one or two blankets, and hot-water bottles are placed at his feet.

He is left with just enough bed-clothing to keep him from feeling cold. Fifteen minutes before the bath half an ounce of whisky is given, and after the bath a glass of hot milk. Half an hour after the bath, temperature, pulse, and respiration are taken and recorded upon a chart. In mild cases (temperature below 103° F.), no attempt is made to reduce the temperature, but sometimes alcohol sponge-baths are given for their quieting effect. The tub-baths are are discontinued only under the following circumstances: (1) When hemorrhage, no matter how slight, occurs from the bowels; (2) when peritonitis develops; and (3) when, in exceptional cases, the tub-baths do not seem to act well, either on account of the poor reaction of the patient, as shown by the pulse and the capillary circulation, or on account of their nervous effect, the dread of the baths being apparently so real in some cases that any benefit to be derived is questionable. Neither bronchitis nor pneumonia are contra-indications for the use of the bath. When the baths are stopped a rubber coil, through which ice-water constantly passes, is kept upon the abdomen. When it is necessary to use the coil, I have personally found that five grains of antefebrin, four or five times a day, will keep the temperature much lower than when the coil is used alone.

The benefits noticed from the use of the baths are: (1) Reduction of the fever; (2) slowing of the pulse, and an improvement in its quality; (3) quieting of the patient and the lessening of insomnia (the patient generally falls asleep immediately after the bath); (4) improvement in mental condition (delirium) and lessening of muscular twitchings.

TREATMENT OF SPECIAL SYMPTOMS.

Tympanites.—When this becomes distressing the diet is modified according to the suggestions given in the treatment of nausea and vomiting. Often when beef-juice is substituted for milk the abdominal distension will become less. Turpentine stupes are applied to the abdomen, and turpentine is given in 10-drop doses in capsules. When the larger bowels are distended with gas, a rectal tube is inserted from eight to eighteen inches and left in the bowel from half an hour to an hour. This is done three or four times a day.

Diarrhea.—It is not necessary to interfere with a moderate diarrhea, but when it becomes severe, and the patient is having more than four movements daily, the quantity of milk is first reduced so that the patient receives from 4 to 6 ounces every two hours. If this does not relieve the condition, subnitrate of bismuth is given, 10 or more grains per day. The bismuth alone will generally control the diarrhea, but if it does not, Dover's powders may be added.

Constipation.—Only during the first ten days of the disease will constipation be relieved by medicine, and then calomel is given in $\frac{1}{10}$ grain doses every hour until a grain has been taken. If this does not act, Rochelle salts are given the following morning. Later in the course of the disease glycerin suppositories and enemata are relied upon to control the condition.

Nervous symptoms.—In cases treated by cold baths, nervous symptoms are never a marked phenomenon, and sedatives are rarely needed. For the severe headache which occurs early in the disease, citrate of caffein, gr. $\frac{1}{2}$, and acetanilid, gr. i to iv, in tablets, one every four to six hours, is given, and for restlessness at night, and insomnia, 5 grains of Dover's powder, repeated at the end of two hours, or trional, 10 to 20 grains at a dose, repeated if necessary.

TREATMENT OF COMPLICATIONS.

Hemorrhage.—If intestinal hemorrhage occurs, no matter how slight, all baths are at once discontinued, and the cold coil applied to the abdomen instead. The patient is kept absolutely still, and is not even turned on his side or moved in bed. At once $\frac{1}{6}$ to $\frac{1}{4}$ of a grain of morphin is given hypodermically, and then, for a day or two, $\frac{1}{4}$ to $\frac{1}{2}$ of a grain of opium is administered by the mouth every three or four hours. When the quantity of blood is excessive, and there is danger of heart failure, enemata of normal saline solution are given, a quart or two at a time, and these are repeated every four hours.

Peritonitis.—When peritonitis is due to perforation every patient has died within twenty-four hours. In one who recovered it is fair to assume that peritonitis was due to extension of inflammation from the intestinal ulcers, and was in every respect a local involvement. This patient was kept in a state of semi-narcosis by hypodermics of morphin for nearly a week, and at the same time turpentine stupes were kept constantly on the abdomen.

Bed Sores.—These rarely develop. Scrupulous cleanliness is the principal means employed to prevent them. The posterior part of the patient's body is carefully bathed three or four times a day with alcohol, and then dusted with a powder consisting of equal parts of starch and oxid of zinc. Sometimes bismuth has replaced the oxid of zinc. If the bed sores threaten to occur, an air cushion is used, or the patient is transferred to a water bed. When bed sores actually develop, they are dressed with iodoform, after irrigation with bichlorid of mercury (1 to 2000), or peroxid of hydrogen. This is done from one to three times a day.

Phlebitis.—This is treated by absolute rest and elevation of the limb. At first when the pain is intense the limb is enveloped in oakum, wrung out in hot water. Later, pressure is made on the limb by bandaging it with cotton bandages; often it is necessary for the patient to wear elastic rubber bandages for months after convalescence, to prevent swelling and pain in the limb.

Pulmonary Congestion.—When evidence of congestion appears an oiled-silk flannel jacket is at once applied to the chest. The patient is propped on his side, and, if indicated, the stimulation is increased. If a bronchitis of the smaller tubes develops, the application of dry cups to the chest, and the internal administration of carbonate of ammonia is resorted to. When inflammatory enlargement of the glands occurs, a dressing of a ten per cent. solution of carbolic acid is at once applied. As soon as abscesses form they are opened and drained. Satisfactory results have been obtained in some cases by aspirating the

abscess, injecting with peroxid of hydrogen, and then allowing a ten per cent. mixture of iodoform and glycerin to remain in the abscess cavity.

RELAPSES.

Of the ninety cases under treatment, relapses occurred in five, or about five per cent. The percentages of relapses, given by different observers, ranges from three to fifteen per cent. In none of these did death occur. In each instance the fever was as high as in the original attack, but was of much shorter duration. The treatment employed was exactly the same as in the first attack, the baths being resorted to at once.

MANAGEMENT OF CONVALESCENCE.

The importance of attention to certain details during this stage of recovery cannot be overestimated. The question of food is the first one to be met. After the subsidence of fever, the patient quickly develops a ravenous appetite, and often begs piteously for a fuller diet. Solid food is never given before the seventh day after a normal temperature has been reached, and generally not until the tenth day. Dr. George Peabody, one of the visiting physicians, makes an exception to this rule and allows solid food as soon after the subsidence of fever as the patient desires it. A scraped beef sandwich, rice, or some other cereal are the first articles given, and these are very cautiously added to. The patient is not allowed to sit up until ten or fourteen days with normal temperature have passed, and never, if possible to prevent it, are friends admitted before the end of the first week of normal temperature. Many relapses have been traced to the excitement attending the visit of friends. In my opinion, this is one of the most important dangers against which to guard. The period of sitting up may be prolonged with the gradual return of strength. After four or five days, the patient is allowed to move about slowly, and then (by the end of a week), when the weather is fine, to take a short drive in the open air. Constipation during convalescence is treated by enemata. Upon the occurrence of diarrhea, the patient is kept in bed and the diet is restricted to milk for a few days. If this does not control it, bismuth is given. The distressing neuritis which often develops during convalescence is treated by wrapping cotton around the limb involved, in order to protect it from changes of temperature. Sometimes counter-irritation is applied by iodin, and a galvanic current given daily for ten minutes. In these cases strychnin is given, one-thirtieth of a grain after meals, until the neuritis disappears.

I am indebted to Dr. Williams, house physician of the New York Hospital, for the interest he has taken in the cases and for his assistance in the preparation of these statistics.

MEDICAL PROGRESS.

Tuberculous Esophagitis Secondary to Peribronchial Tuberculosis.—DANEL (*Journal des Sciences Médicales de Lille*, 1896, No. 22, p. 530) has reported the case of a woman, seventy-six years old, concerning whom little information could be gained, but who presented signs of pulmonary tuberculosis and bronchopneumonia inferiorly on the left. There were, besides, in the submaxillary region, on each side, several areas of superficial ulceration. Death resulting, *post-mortem* examination disclosed in addition to the accuracy of the clinical diagnosis the existence of ulceration of the mucous membrane of the posterior wall of the esophagus for a distance of nearly four inches. The floor of the ulcerated area was excavated, eroded, and of reddish hue, and at its margins and beyond numerous miliary granulations could be seen. Similar granulations in smaller number were present also on the anterior wall of the esophagus, the involvement of which extended almost as high as the pharynx. At the point where the esophagus crossed the right bronchus on its way from the trachea was a circular opening more than a third of an inch in diameter, establishing a channel of communication between the esophagus and a broken-down peribronchial gland. The stomach was dilated and slate-colored and contained a number of granulations, probably tuberculous. The intestine appeared to be free. The glands of the neck were enlarged, some being indurated and some softened.

Successful Gastro-Anastomosis for the Relief of Hour-Glass Contraction of the Stomach.—LAUENSTEIN (*Münchener Medicinische Wochenschrift*, 1896, No. 21, p. 491) reports the case of a woman, forty-three years old, who presented various symptoms of gastric derangement for a number of years, including vomiting, cardialgia, constipation, emaciation, and hematemesis. No physical evidences of disease could be detected, and examination with the tube disclosed signs of reduction in the size of the stomach. Operation was decided upon and when the stomach was exposed, after a median incision, an hour-glass deformity of this viscus was found. The lesser curvature was adherent to the under surface of the liver, and the constriction existed at this point. Communication was established between the two saccules by first suturing the peritoneal layer of the opposed surfaces posteriorly, then incising the seromuscular layer and suturing, and finally treating the mucous layer in the same manner. The opening was entirely closed by pursuing the same course anteriorly. Improvement at once resulted, with gain in weight and relief from previous symptoms. In a diagnostic way hour-glass contraction of the stomach is to be recognized by signs of diminution in the size of the stomach, *viz.*, distress after ingestion of small amounts of food or drink and intolerance of the usual quantity of fluid through the tube; the persistence of succussion-phenomena after apparent emptying of the stomach; the sudden appearance of gastric contents through the tube after the water returned in irrigation has been clear; and the evacuation of less water through the tube than was introduced.

Albuminuria during Pregnancy, Labor, and the Puerperium, and its Relation to Eclampsia.—As the outcome of a clinical investigation, conducted at the Institute for Midwives at Breslau, SAFT (*Archiv für Gynäcologie*, B. 51, H. 2, p. 207) found albuminuria present in 5.41 per cent.

cases of pregnant women, appearing in the second half of pregnancy, and increasing in frequency toward the close. The proportion of albumin present in the urine may reach a considerable degree several weeks before the termination of the gravidity. The frequency of albuminuria is greater among primigravida (5.9 per cent.), than among multigravida (4.1 per cent.). The degree of albuminuria during labor corresponds in general with the amount of albumin present in the urine during pregnancy. The frequency of albuminuria during parturition, as well as the degree, is greater among primiparæ (32.08 per cent.) than among multiparæ (22.6 per cent.). The albuminuria disappears generally during the first days of the puerperium, and only exceptionally is protracted over a longer period. This period is longer among primiparæ than among multiparæ. The renal lesion following pregnancy is more intense among the former than among the latter. The presence of white and red blood corpuscles in the urine of pregnant women free from albuminuria is attributable to lesions of the bladder. Tube-casts were found in the urine of pregnant and parturient women only in association with albumin. The appearance of tube-casts under such circumstances is independent of the amount of albumin, and their presence is without influence upon the duration of the albuminuria. Pregnancies and labors in cases of twins and hydramnios favor the occurrence of albuminuria. The contracted pelvis favors the occurrence of albuminuria in primiparæ, during pregnancy as well as during labor; in the case of multiparæ only during labor. Albuminuria is frequently the cause of premature labor. The kidney of pregnancy represents a condition due solely to pregnancy, never giving rise to pronounced disturbance to the general condition, and disappearing rapidly during the puerperium. It is thus in no way related to true nephritis. The pathologic-anatomic alterations of the kidney of pregnancy are essentially degenerative in character. The prognosis of the uncomplicated kidney of pregnancy is favorable; the danger of transition to chronic nephritis is insignificant. On the other hand, the prognosis of the kidney of pregnancy, attended by complications (such as nephritits or cardiac disorder), is dubious. The cause of the kidney of pregnancy is probably an auto-intoxication of the organism through some product of tissue-metamorphosis, which probably induces also the so-called molimina graviditatis and various nerve irritations. During parturition a new injurious factor is added in consequence of the muscular strain. In the presence of an excess of this poisonous product eclampsia results. The changes in the kidneys, liver, and other organs, are secondary to the eclampsia.

THERAPEUTIC NOTES.

A Better Method of Administering Castor-oil.—In the *Rev. de Therapeut. Médico-Chir.*, November 1, 1896, KLEIN mentions a method of overcoming the bad taste of castor-oil by simply warming it in a glass of milk and shaking it to an emulsion. The bad taste disappears and, owing to its finely divided condition, it acts more energetically, so that a smaller dose suffices, a half-ounce purging most adults. A small amount of sirup of bitter orange may be added if a flavor to the dose is desired.

Formaldehyde in Combination with Starch and Casein.—Formaldehyde vapor acting upon gelatin produces a substance called formalin-gelatin, the antiseptic action of which, in the treatment of infected wounds, has already been commented upon. Similar preparations, in which the substances affected by the formaldehyde vapor are starch and casein, have been the subjects of experiments. Like formalin-gelatin, they possess a mild antiseptic action, and tend to diminish pus-formation. BOHL reports in the *München. Med. Woch.*, No. 38, 1896, his experience with formaldehyde-casein.

A Contribution to the Study of Mixed Anesthetics.—LANGLOIS and MAURANGE (*Bulletin de l'Academie de Médicine*, No. 42, 1896), from observation of 350 cases, conclude that:

1. The combination of morphin and spartein, administered subcutaneously, stimulates and regulates the cardiac contractions.

2. After such injection narcosis is rapidly accomplished and easily maintained, with a minimum of anesthetic, for at least one hour,

3. In cases anesthetized for two hours or longer, although respiration becomes enfeebled, the heart-action continues forcible.

A Clinical Report on Analgene.—In the *Bull. de l'Academie de Méd. de Paris*, November 10, 1896, MONGORVO of Rio Janeiro presents the results of his experiments upon children with the new coal-tar product, analgene (ortho-ethoxy-anamonobenzoyl-amido-quinolin), obtained by Vis of Freiburg. It is claimed that this remedy possesses the analgesic, antithermic and sedative properties of antipyrin, thallin, phenacetin, antifebrin, etc., with none of their disagreeable and sometimes dangerous effects.

Mongorvo used the drug exclusively among children, and reports fifty-nine cases, thirty-three being various manifestations of malarial poisoning. Of these latter, the ages of the patients ranged from twenty days to thirteen years. The dosage varied from 25 centigrams to 3 grams in twenty-four hours. In no case did he observe the slightest unfavorable action upon the respiration or circulation. When large doses were given for some time the urine became colored a deep yellow or red, but albumin or sugar was never present. Its action in the malarial cases was prompt and efficient, reducing the temperature and shortening the period of the disease.

The twenty-six other cases comprised tuberculosis, lymphangitis, arthrosynovitis, parotiditis, Potts' disease, hip disease, epilepsy, hysteria, chorea, otalgia, herpes zoster, urticaria, and painful tumor of the liver. In all these the remedy acted well in reducing high temperature, when present, and allaying pain. It also influenced favorably the nervous phenomena present in the cases of hysteria, chorea, and epilepsy. The drug is soluble in slightly acidulated water and, as it has no taste, is well adapted for administration to children.

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SATURDAY, JANUARY 30, 1897.

INSPECTION OF THE NEW YORK CITY SCHOOLS.

THE Board of Health of New York city is a model institution. In times of threatened epidemic it has risen to the occasion in such a way as to compel the admiration of every citizen whose health it aims to guard. The result is that no serious epidemic has for a long time been allowed to develop or prevail in territory over which it has jurisdiction. That it is ever on the alert to coöperate with the physician in combating infectious disease when it does exist is shown by its recent attitude on the subject of the serum diagnosis of typhoid fever.

Recently it has proposed a plan for the more prompt recognition and more effectual prevention of the common infectious diseases of children, particularly diphtheria, scarlatina, and measles. The plan is to have the children of the public and parochial schools inspected daily by a corps of physicians appointed and salaried for that purpose. To accomplish this the annual sum of $47,500 has been granted by the Board of Apportionment.

It is a fact apparent to every practising physician that the centers for the dissemination of the communicable diseases are the public schools and the public dispensaries, one being equally iniquitous with the other. The proof recently furnished by the report of a member of the Board of Health staff who was detailed to investigate the subject of the spread of disease by the public schools, is corroborated by the experience of every physician who is called upon to treat the children attending these institutions. In this report it is shown that it has been no uncommon experience to find that children absent from school had scarlatina, measles, or diphtheria, while other children of the same family continued to go to school and thus jeopardized the life of every person who breathed the same air with them in the school room. Although it is a fact that there exists a law to the effect that all communicable diseases shall be reported to the Bureau of Statistics for Contagious Diseases, and that immediately thereon measures shall be adopted by the Board of Health to prevent the spread of the disease, and that this law is actively and beneficially enforced, everyone knows that at least one-third to one-half of all the cases of these three diseases—measles, scarlatina, and diphtheria—are allowed to run their course without the aid or attention of a physician. In many other cases the services of a physician are not sought until the patient is *in extremis*, and even then the child is often taken to a dispensary.

Since the serum treatment of diphtheria has become so universal, and since cultures for the early diagnosis of the disease have become the rule, the fact that many cases of genuine diphtheria formerly passed as tonsillitis, pharyngitis, catarrhal sore throat, and the like, cannot be gainsaid. It is to these and similar cases that we owe the spread of so much diphtheria and scarlatina by the public schools, and it is these cases particularly that the corps of physicians which it is proposed to appoint would combat, and in a measure prevent. We are sure that the immediate result of the expenditure of this insignificant sum of money will be to materially lower the death-rate.

THE FATE OF CHARLATANS IN GERMANY.

THERE are times and places in which charlatanism is not all profit. The writer of an article which appeared in the *Journal de Médicine* of Paris, December 20, 1896, laments the fact that if a charlatan is

brought to trial in France he is either acquitted or escapes with a fine of 15 francs ($3).

It is somewhat different in Germany. A certain Volbeding of Dusseldorff, who styled himself a homeopathist, by advertising in more than six hundred newspapers in Germany and elsewhere, worked up a business estimated to be worth $40,000 a year. He treated patients by correspondence, and employed a small army of clerks, without medical knowledge, to answer the several hundred letters he daily received; and they, in his absence, prescribed the treatment. The medicines he used were few and simple, and were prepared in his laboratory by other clerks who knew nothing of pharmacy. He "cured" nearly everything and regulated his charges according to the social status of his victims. In the front of his establishment he kept a neat little drug-store to conceal the business which was done in the rear. Moreover, he himself was a regularly graduated physician. In spite of all these precautions he was arrested and sentenced to four years and a month imprisonment, to five years' loss of civil rights, and to pay $1500 fine. Pending his trial he deposited $50,000 as bail, but, unfortunately for him, he did not obtain even temporary liberty, as the tax collector accused him of having committed fraud in the avoidance of taxes upon his revenue. The officer therefore confiscated the whole sum, and Mr. Volbeding remained in jail.

ECHOES AND NEWS.

Roentgen-ray Experiments.—The Prussian Government is reported to have appropriated $12,000 for Röntgen-ray experiments during the current year.

Memorial of Baron Hirsch.—The widow of Baron Hirsch has presented the Pasteur Institute in Paris with 2,000,000 francs as a memorial of her late husband.

A National Laboratory.—Great Britain is now seriously considering the advisability of establishing a National Laboratory of Natural Sciences, in which all her scientific associations will take an interest.

Epidemic Diseases in Paris.—During the period between 1877 and 1881, the death-rate in Paris from preventable epidemic diseases was one in every ten. This was reduced during the years 1892–1896 to one in eighteen.

Following the New York Health Board.—Health Commissioner Starkloff will, at the next meeting of the St. Louis Board of Health, recommend that pulmonary tuberculosis be declared infectious, as has been done in New York City.

Temples of Esculapius.—Recent excavations at Epidaurus and Athens have opened to modern eyes the temples of Esculapius, and the ruins are found to bear much valuable evidence regarding the methods of ancient medicine.

Concert for the Post-Graduate Hospital.—A successful concert was given recently by Mr. Seidl and his Metropolitan Orchestra at Carnegie Hall for the benefit of the New York Post-Graduate Hospital. Mme. Gadski and Mr. Emil Fischer rendered the special numbers of the program.

Lung Troubles in Chicago.—Since the first day of the present month, pneumonia and other pulmonary troubles have been increasing in Chicago, and it is feared that pneumonia may become epidemic. In December, 1896, there were 147 deaths due to that disease. Thus far in January it has claimed 167 victims.

Lord Lister.—Sir Joseph Lister has communicated his intention of retaining the name Lister in the title he will assume when elevated to the peerage. It is a source of gratification to his medical friends and admirers to learn that he will not abandon the name he has rendered renowned and so universally revered.

A Medical Strike.—The physicians attached to the night service in a certain densely inhabited quarter of Paris have all resigned. Applications customarily made to the police for medical relief are now refused in most instances. The difference has arisen concerning the remuneration. To one at this distance the sum in question is a paltry one, but a principle of no small importance may be involved.

Famine in Rhodesia.—Reports have been received from Cape Town that famine exists in Rhodesia. Thousands of emaciated native women besiege the native office at Buluwayo, clamoring for food. The natives are flocking to Buluwayo and are exhuming the carcasses of cattle which died from rinderpest. They devour these, and, as a consequence, a terrible mortality prevails among them.

Changes in the Medical Staff of the Woman's Hospital of New York.—The Medical Board of this hospital has decided that it is for the best interests of the institution that the Assistant Staff should be reduced in number. Accordingly the edict has gone forth that each visiting surgeon, instead of having two assistants, shall hereafter have but one, and five members of the Assistant Staff have been dismissed.

Tri-State Medical Society of Iowa, Illinois, and Missouri.—The fifth annual meeting of this Society will occur in St. Louis, April 6, 7, and 8, 1897. Dr. Joseph Price of Philadelphia will hold the Surgical Clinic, Dr. James T. Whittaker of Cincinnati the Medical Clinic, and Dr. Dudley Reynolds the Ophthalmic Clinic. Dr. G. Frank Lydston of Chicago will entertain the members with an original story during one of the evening sessions.

Air and Exercise for Consumptives.—At the recent discussion on phthisis before the New York Academy of Medicine, Dr. Trudeau asserted that exercise was not so desirable in the case of a phthisical patient as was generally supposed, the slightest excess, indeed, being injurious and working with surprising rapidity against the ability of the sufferer to resist the disease. He insisted, however, on the greatest amount of exposure to the outside air, even in inclement weather and at low temperatures.

The Albany Medical College Alumni Association.—The second annual banquet of this organization was held at the Hotel Savoy in New York, January 21, 1897. Dr. Wm. H. Thomson, the president of the Society, welcomed the guests in a most interesting and delightful way. Among other enjoyable features of the evening was the amusing and graphic description by Dr. Kimball (now detailed at Governor's Island) of his medical and surgical experiences upon the western frontiers, especially among the Indians.

Appropriation to Protect New York Against the Bubonic Plague.—Health Officer Doty of the Port of New York made a personal appeal to the legislature in Albany last week for an appropriation of five or six thousand dollars to be used in extending his present disinfecting plants. The existing facilities are quite sufficient to care for all suspicious mail, but within the next few weeks it may become necessary to deal with infected vessels. To prepare for this is part of an efficient service such as Dr. Doty is sparing no pains to render.

Pursuing Quack Doctors.—The New York County Medical Society is after the unregistered doctors and quacks who are practising medicine without a license. Since the law providing for the criminal prosecution of the quacks was reënacted in April, 1895, the Society has caused the arrest of eighty-three persons for practising illegally in the county, and has obtained convictions in fifty-one cases. These persons have paid $3,690 in fines, and in addition a number of them have been sent to jail. The legal department of the society has a large number of cases still pending.

The Board of Health Sustained.—In an action brought by the New York Board of Health in the Supreme Court to compel the removal of certain rear tenements in Mott street, the referee filed his report this week. In this he sustained the action of the Board of Health in every particular. As this case was generally accepted as a test of the validity of the Act of 1895, upon it will hinge the destruction of more than fifty of these vile pest-holes of moral and physical degradation. The final approval of the judge it is hoped will forever set a seal upon the existence of rear tenements in New York City.

Spitting in Public Conveyances.—Placards carrying the full text of an act of the New York Board of Health against expectoration in public places, including street and elevated cars, have been displayed in conspicuous positions in the same for almost a year, but still the vile, disgusting, and dangerous practice persists with little abatement. The police authorities are now being directed to look to its enforcement. The conductors and station masters have apparently come to regard it as a dead letter, and it is quite as important that their minds should be relieved of this false impression as that the public violators should be brought to justice.

A Nun Doctor.—Many Roman Catholic Sisters are more or less skilled in the practice of medicine, and the nursing of the sick is, very appropriately, among their most frequent benevolent vocations; but it is by no means usual to find one who has fulfilled the legal requirements necessary to allow her to write M. D. after her name. Sister Raphael, an inmate of a convent in Kalamazoo, Mich., is an exception. She graduated from one of the best Philadelphia colleges, and afterward joined the religious order of the Sisters of St. Joseph. In a well-appointed office in the convent she attends to a regular office practice, both medical and surgical, and is highly esteemed by her professional neighbors.

Serum Treatment of the Bubonic Plague.—Dr. Yersin has so conclusively demonstrated the efficacy of the serum treatment of this infectious disease in India that he has begun the manufacture of the serum on a large scale. He has inoculated 100 horses, in which he is developing the antitoxin as rapidly as possible for use not only as a specific against the disease, but also as a prophylactic. At present he has at his disposal the serum from a single horse. With this he has inoculated twenty-seven patients sick with the plague, of whom twenty-three have recovered. When his present plans are perfected, he will have sufficient serum to inoculate 18,000 persons every month.

Disinfected the Mail.—Nine sacks of mail from India came into New York Harbor last week and were taken off the steamer at Quarantine for disinfection. It is the first batch received since the rule went into effect for special precautions, in view of the bubonic plague that is devastating Bombay and the far East. Dry heat is the main reliance for killing any lurking microbes. Chambers have been provided on the new quarantine boat, where treatment can be given by heat, steam, formalin, or bichlorid of mercury. Formalin is a saturated solution of formaldehyde, a deadly gas derived from methyl-alcohol. When the solution is poured out, the gas is set free and seems to penetrate everything. A heat of 230° F., however, is considered absolutely sufficient to kill any germ.

Localizing the Seat of Memory in the Brain.—Professor Edniger of Frankfort-on-Main is collecting evidence to determine the question: Do fish possess the faculty of memory? The Professor maintains that it is accepted that fish do possess a certain degree of memory; that they recognize persons, know which places to frequent and which to avoid, according to the experience they have gained; and that having once been caught by a hook, they recognize it when they see one again. It has generally been held that the seat of memory is in the gray matter of the brain. Fish have no gray matter whatever. If, therefore, it can be proved that they collect their experiences and utilize them afterward, it will throw doubt upon the exclusive claim of gray matter to the seat of memory.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

ELECTION OF OFFICERS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY—MEETING OF THE SECTION OF OPHTHALMOLOGY OF THE COLLEGE OF PHYSICIANS—MEETING OF THE MUTUAL AID ASSOCIATION OF THE COUNTY MEDICAL SOCIETY—ON THE ALERT TO AVOID THE PLAGUE—VISIT OF PROMINENT PENNSYLVANIANS TO INSPECT THE WORKINGS OF THE NEW YORK HOSPITAL FOR THE CRIMINAL INSANE—ANNEX TO THE MUNICIPAL HOSPITAL—DR. SPEAR APPOINTED SURGEON TO THE SCHOOLSHIP "SARATOGA"—MEETING OF THE GYNECOLOGICAL SECTION OF THE COLLEGE OF PHYSICIANS.

January 24, 1897.

AT a business meeting of the Philadelphia County Medical Society, held January 20th, the following officers were elected: President, Dr. James Tyson; first vice-president, Dr. Edward Jackson; second vice-president, Dr. S. Solis-Cohen; Secretary, Dr. John Lindsay; assistant secretary, Dr. Edward R. Kirby; treasurer, Dr. Collier L. Bower; censor, Dr. W. Joseph Hearn. Delegates to the American Medical Association and to the State Medical Society were also chosen.

At a meeting of the Section of Ophthalmology of the College of Physicians, on January 19th, Dr. Clarence A. Veasey, by invitation, read a paper on "Binasal Hemianopsia." Dr. G. Oram Ring reported a case of foreign body in the vitreous diagnosticated by aid of the Röntgen ray. Some instances of magnet extraction of steel from the vitreous were related by Dr. Edward Jackson. Dr. F. M. Perkins exhibited a case of unilateral congenital microöphthalmos. A paper treating of traumatic ectropion uveæ and also of syphilitic tarsitis was contributed by Dr. George E. de Schweinitz. A patient with cilia in the anterior chamber was presented by Dr. George C. Harlan. Dr. Charles A. Oliver read a paper on the primary effects of an operation for cicatricial ectropion, exhibiting two patients, and a third illustrating rupture of the retina in retinal detachment.

A special meeting of the Mutual Aid Association of the Philadelphia County Medical Society was held on the evening of January 23d, to consider methods of increasing the permanent fund and adding to the membership of the organization. The Association consists of members of the Philadelphia County Medical Society, and its purpose is to give pecuniary assistance to the widows and children of physicians who have left no estate. It was founded in 1878, largely through the efforts of the late Professor Henry H. Smith, of the University of Pennsylvania.

At the weekly meeting of the Board of Health, held Wednesday, January 20th, Dr. William H. Ford was appointed a committee of one to confer with the secretary of the State Board of Health and the quarantine physician on the subject of the bubonic plague, with a view of preventing the possibility of its entry into this port.

The New York Hospital for the Criminal Insane at Matteawan was visited yesterday by Judge Gordon and a delegation of about thirty prominent Pennsylvanians. Among the number were Dr. Thomas G. Morton, former member of the State Lunacy Commission; Dr. William S. Janney; Dr. Francis X. Dercum; Dr. John C. Chapin, superintendent of the Pennsylvania Hospital for the Insane; Dr. D. E. Hughes, of the Insane Department of the Philadelphia Hospital; Mayor Warwick; Judge Arnold; Henry M. Deckert, president of the Wernersville Insane Hospital; Albert R. Harris, Eugene Raymond, and William F. Santly, of the House of Representatives; and General J. P. S. Gobin, Senator from Lebanon County. This visit of inspection is the result of the investigation recently ordered by Judge Gordon into the mental condition of certain convicts confined in the Eastern Penitentiary, this city, and it is to be hoped that it will ultimately result in the establishment in this state of a hospital fitted for the accommodation and treatment of the criminal insane.

An annex to the diphtheria pavilion and an administration building for the Municipal Hospital of Philadelphia have just been completed, and were thrown open for inspection during the past week. The new pavilion leaves nothing to be desired from the standpoint of ventilation, the air being continually changed by a system of electric fans.

Dr. Raymond Spear of Norristown, Pa., has recently been appointed surgeon to the schoolship "Saratoga" during her coming cruise. This position is generally filled by an officer of the U. S. Naval Medical Corps. Because of the number of men-of-war going into commission, none of the regular corps was available for the "Saratoga," and a civilian was of necessity detailed to the post.

At a meeting of the Section of Gynecology of the College of Physicians, held January 21st, Dr. Charles P. Noble read a paper entitled "A New Method of Suturing the Abdominal Wound in Celiotomy." Dr. Richard C. Norris read a paper on "The Necessity for an Early Inspection of the Vagina in Puerperal Sepsis." The discussion of Dr. Norris' paper agreed in the main with his views, differing only in matters of detail as to treatment, etc. Dr. E. E. Montgomery suggested the use of streptococcus antitoxin serum when infection of this type was suspected.

TRANSACTIONS OF FOREIGN SOCIETIES.

Paris.

NATURE OF THE CONTAGION AND THE ORIGIN OF INFECTIOUS DISEASES—THE ROENTGEN-RAY IN THE DIAGNOSIS OF PULMONARY CONSOLIDATION—ACQUIRED AND HEREDITARY SYPHILIS IN THE SAME INDIVIDUAL.

KELSCH read a paper on *contagion and the origin of infectious diseases* before the Academy of Medicine, December 22, 1896. The propagation of infectious diseases capable of becoming epidemic is attributed to direct contagion, each attack presupposing a similar attack in another person. Though this is true of certain diseases (more particularly of eruptive fevers), it does not hold good for the most important group of epidemic infections.

These not only develop through contagion, but also in many cases where they do not previously exist. This statement is true of typhoid fever, cholera, diphtheria, and epidemic influenza. There is no doubt that typhoid fever may break out suddenly in places where it had not existed within human memory; where no typhoid fever patients had arrived from other places, and where no influence from other typhoidgenic foci in the neighborhood could make itself felt. These facts prove that typhoid fever may arise, not indeed spontaneously, but from agents, either inside or outside of our organism, which are ordinarily inoffensive.

The history of cholera is likewise full of sporadic and epidemic cases in which the ubiquity and simultaneousness of the attacks defy any attempts to connect them, while it is evident to any unprejudiced observer that they have originated on the spot. This idea has recently received bacteriologic confirmation by the proof that there almost invariably exist in sewage and other waters vibrios representing all the characteristics of the cholera vibrios, but without their virulence. Experiments have shown that they may acquire virulent properties by changes in the chemic and biologic composition of the medium in which they live. In explaining the epidemics of influenza it is necessary to introduce these two etiologic elements, namely, contagion and autochthonous development; for we frequently meet with local epidemics with individual cases occurring simultaneously in widely separated places and under conditions which argue against the probability of the transport of a morbid germ by human beings or by atmospheric currents. A similar statement holds true of diphtheria. And, indeed, there is nothing mysterious about these facts since we know that Loeffler's bacillus is normally present in the mouth of many persons, as is also the pneumococcus and streptococcus, and that it is capable of acquiring an unusual virulence under the influence of undetermined causes. Therefore, while infectious diseases are transmissible by contagion, like virulent diseases properly so-called, they are not exclusively contagious like the latter. Hence the name infecto-contagious, by which they were formerly known.

Another interesting feature of infectious diseases is brought out by the study of their course during a number of years. A virulent period of smallpox recurs on an average every eight or ten years; of measles every three or six years; and of scarlet fever at longer and more irregular intervals. It is clearly indicated that the contagious agent of these diseases undergoes in the course of time unceasing variations, its ascerbation and attentuation alternating with greater or less regularity. Proofs of this theory are also not lacking in the history of those parasitic diseases which are capable of becoming epidemic. Alopecia areata has been endemic among the firemen in Paris for nearly ten years. During this time there have been two epidemic periods, one in 1888 and the other in 1893. The most careful investigation failed to reveal the cause of this sudden extension of the disease. The only conceivable explanation is that the infected agent in some unknown way acquired an unusual energy. The search for various cosmic, telluric, hygienic, and other influences, which cause germs, ordinarily harmless, to take on virulent functions is of as great importance as the search for the origin of the contagion itself.

BOUCHARD recently called the attention of the Academy of Sciences to the arrest of the Röntgen ray by pleural effusions. At the session held December 14, 1896, he reported that even slight condensation of the pulmonary tissue at the apex of the lung will cast a dark shadow. By examination of a number of tuberculous patients with the aid of the fluorescent screen, it was determined that the pulmonary lesions threw shadows which corresponded exactly with the area of consolidation as revealed by other means of physical examination. In two cases, light spots within the dark area revealed cavities, the existence of which was proved by auscultation. In other cases in which cavities were made out by auscultation, no light spots were seen in the shadow.

In a communication on the *regulation of the intrabronchial pressure and narcosis in artificial respiration by insufflation* made to the Biological Society, December 19, 1896, TUFFIER and HALLION explained the advantages of their apparatus for insufflation. In order to vary the narcosis, it is only necessary to change the rhythm of the insufflation, or to cause expiration to go on through a tube plunged in water to a greater or lesser depth. The resistance to the respiration varies with the depth of the tube under water, and the intrabronchial pressure and the volume of the lungs can thus be regulated at will. On the other hand, by inserting into the adductor tube a branch tube which passes through a a bottle containing chloroform or ether, the current of air for insufflation may be made to pass in any desired proportion through this bottle, where it becomes charged with narcotic vapor.

MARIANI invariably found that inhalations of oxygen brought about important changes in the urine, namely, increase in the amount of urea and nitrogen, and diminution in the amount of the toxicity. On the other hand, he observed a marked alkalinity of the blood. He therefore concluded that inhalations of oxygen may be advantageously resorted to in all infections associated with disturbances of the organic exchanges.

LE PILEUR called the attention of the Society of Dermatology and Syphilography on December 10, 1896, to *acquired syphilis in a patient suffering from hereditary syphilis*. His mother, for some months previous to his birth, had undergone treatment with mercury, and was delivered at term. The father was an alcoholic, and had contracted syphilis six years before the birth of this child. The child's physical and intellectual development was imperfect. The skull was remarkably small and the face dull. The roof of the mouth was extremely narrow and the teeth were small, stubby, and covered with striæ and erosions. When nineteen years of age, he contracted syphilis during coitus, and two months later presented a hard chancre in the balanopreputial furrow, and, in addition, roseola, sore throat, headache, etc.,—in short, all the usual symptoms of acquired syphilis. It was evident, therefore, that a subject of hereditary syphilis might acquire syphilis, or else the above trophic disturbances

must be considered as belonging to the lesions described by Fournier as parasyphilitic.

Vienna.

TWO CASES OF THRUSH OF THE BLADDER—A TUMOR OF THE STOMACH WHICH DEVELOPED UNDER THE EYE OF THE OPERATOR—THERAPEUTIC VALUE OF CATHETERIZATION OF THE URETERS—BEST TREATMENT OF CHRONIC CONSTIPATION.

At the session of the Society of Physicians held December 11, 1896, FRISCH presented a patient with *thrush of the bladder*. The attack was sudden, without known cause, and was accompanied by painful micturition. The use of a catheter showed the presence of air in the bladder, and the last few drops of urine that were drawn off were mixed with bubbles of air. The urine contained traces of albumin, four per cent. of sugar, and a great number of small white kernels, which the microscope showed to be mycelia. The urinary sediment also contained yeast cells.

BRIK mentioned a very similar case observed by him in which the etiology was especially interesting. The patient, an officer of past middle life, was diabetic and had had several attacks of cystitis and pneumoturia. In a recent attack, marked by a great sensitiveness above the symphysis, the catheter was completely stopped up by a white membrane in which numerous bacteria, threads of mycelium, and yeast fungi, were demonstrable. The patient, who suffered with thrush in the throat, and who for convenience always carried his catheter in his pocket, had the habit of moistening the instrument in his mouth before inserting it into the bladder. The symptoms of thrush in the bladder improved after injections of nitrate of silver.

SCHNITZLER had a patient, aged thirty-five, whose mother died from cancer of the stomach, and whose sister also died from some gastric trouble. For eleven years this patient had suffered from oft-recurring severe gastric pain, and said that she had vomited great quantities of blood. She was kept in bed for a time on a milk diet, and did not vomit at all. Six months later she returned to the hospital with the statement that during her absence she had vomited blood many times and had suffered almost constant pain. Abdominal palpation was negative. Two days later, however, a tumor was plainly made out in the region of the stomach. An exploratory laparotomy was performed, and the stomach found to be apparently normal. Suddenly there developed a tumor of the pyloric region about 7 cm. long and 5 cm. wide. It was very hard and obstructed the lumen of the stomach. This tumor, which was due to muscular contraction, was either purely hysterical or was of a reflex character, caused by the presence of an ulcer of the stomach. An incision was made through it longitudinally, but neither a fresh ulcer nor a cicatrix was found; in fact, nothing abnormal was seen. The incision was sutured transversely in order to prevent the same muscle fibers from growing together. Since the operation there have been no attacks of pain. Although this is the only case in which such a spasm has been directly observed, cases with similar histories have been operated upon but nothing found.

KOLISCHER discussed the *therapeutic value of catheterization of the ureters*. This procedure may be of therapeutic advantage in three ways; first, by pushing back into the pelvis of the kidney a stone which has become wedged in the ureter, thereby preventing the escape of urine; second, by breaking a soft calculus into small pieces; and third, by assisting the passage of the stone into the bladder. This actually happened in one of Kolischer's cases in which he injected 3 grams of liquid vaseline through a catheter inserted into the ureter to the distance of 3 cm. The calculus was passed into the bladder in three-quarters of an hour.

BUMM discussed the *best treatment of chronic constipation* at the session of the Medical Club, held December 16, 1896. Massage, electricity, gymnastics, and hydrotherapy, were all favorably mentioned. Purgatives are seldom of value. It is important to know in what part of the intestine the fecal masses accumulate. He had noticed in gynecologic examinations that the rectum was often filled with feces, although the patient had asserted that her bowels moved regularly; while women in whom the rectum was empty complained of constipation. In such cases the seat of fecal accumulation is not in the lowest part of the large intestine, but is frequently in the region of the splenic flexure, a point which should be remembered in the treatment. Moreover, massage is to be looked upon not as a mechanical means of pushing along the feces, but as a passive gymnastic exercise of the intestinal wall. Massage also increases the flow of bile which in turn favors the evacuation of the intestine.

SOCIETY PROCEEDINGS.

NINETY-FIRST ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Held in Albany, January 26, 27, and 28, 1897.

[From our Special Correspondent.]

JAMES D. SPENCER, M.D., of Watertown, President.

FIRST DAY—TUESDAY, JANUARY 26TH.

THE meeting was called to order by the President, and prayer was offered by the Rev. Dr. Selden of Albany.

The

PRESIDENT'S INAUGURAL ADDRESS

was then delivered by JAMES D. SPENCER, M.D. He said that much good work had been done by the State Board of Health, but their work was largely a labor of love, and required the expenditure of much time. They should have at their disposal the necessary funds for prosecuting the very important work of thoroughly inspecting cattle, and detecting those which are diseased. This inspection should be carried out in a scientific manner, and demands the services of a skilled bacteriologist. The offensive trades should also be placed within the jurisdiction of the State Board of Health.

A movement was on foot, the speaker said, looking to the organization of a body to be known as the "National Confederation of Committees on Legislation of State Medical Societies." It was to be so constituted as to be an

amplification of the committees on legislation of the various State Societies throughout the Union. It was recommended that this Society should appoint a committee of five or ten members to consider this matter, and, if deemed advisable, to represent the Society in this proposed national organization.

The subject of the work of the Board of Regents was next considered. It was stated that New York State had nearly seventeen per cent. of all the medical students of the United States. Of the 2273 candidates who had taken the licensing examinations, over twenty-two per cent. had been rejected. Of the 733 candidates last year, 181 were unsuccessful.

The announcement was made that the Society had been invited to send a delegation on May 8, 1897, to the centennial celebration of the Westchester County Medical Society—the oldest medical society in the State.

STATE MEDICAL EXAMINATIONS.

M. J. LEWI, M.D., presented a report on this subject. He said that 23.7 per cent. of the candidates had been rejected at the examinations. Of those coming from the medical schools of New York State 86.2 per cent. received licenses, whereas of those graduated from schools outside of the State only 74.5 per cent. passed the examinations. An applicant must receive 525 points out of a possible 700 to receive a license to practice medicine. A neighboring State has made the claim of a higher standard, because their candidates were required to obtain 675 points, but a careful consideration of their method of rating would show that 675 points were required out of a possible 900—exactly the same standard as prevails in our own State. Since the enactment of the laws which established this Board in our State 1893 licenses have been granted. In this same period 2832 persons have applied for licenses to practice medicine. Of this number 29.2 per cent. were found incompetent and deficient.

After adopting this report the State Medical Society passed a resolution requesting that the Legislature should not interfere with the law as it now stands, unless requested to do so by this Society.

REPORT OF COMMITTEE ON LEGISLATION.

A. WALTER SUITER, M. D., of Herkimer, the chairman, presented the report. He stated that the committee had not succeeded in securing the repeal of the law requiring public school instruction in the effects of alcohol and narcotics, but had secured a favorable modification of the same.

It was expected that a bill would be introduced shortly requiring the licensing of midwives by the Regents of the University, after proper examination and on the same grounds as licenses were granted for the practice of medicine. The proposed measure would contain one provision, which had unfortunately been omitted from the medical practice law, *viz.*, the power to revoke a license for cause.

It should be noted that the Stanchfield bill, which proposed to restore the matriculation examinations to the hands of the faculties of the medical colleges, had been vigorously and successfully opposed, not only by the medical societies, but by the faculties of all the colleges in the State, *save one*.

The bill to incorporate the "Optical Society" was defeated. Had it passed, it would have allowed 4000 persons in the State to become, in a certain sense, licensed practitioners.

So much objection had been raised to the method provided for in the bill abolishing the coroner's office for appointing the medical examiners, that this bill had been defeated. The committee hoped to advocate another similar bill before the present legislature.

REPORT OF COMMITTEE ON HYGIENE.

HENRY R. HOPKINS, M.D., of Buffalo, the chairman, presented the report. He said that as the mortality for the last year reported was 38,000 from contagious, infectious, and communicable diseases, there was abundant reason for giving much attention to the subject of hygiene. The committee recommended that the society ask the various county organizations to establish local societies to consider especially matters relating to the public health.

The report of the committee was accepted, and the last recommendation especially commended.

VIVISECTION.

On motion of Dr. Vanderveer of Albany the Society instructed the secretary to notify Senators Hill and Murphy that it had adopted a resolution condemning Senate bill No. 1552, entitled "An act for the further prevention of cruelty to animals in the District of Columbia."

On motion of Dr. W. O. Stillman of Albany the Society also appointed a committee to confer with the Humane Society on this matter.

PRELIMINARY MEDICAL EDUCATION.

DANIEL LEWIS, M.D., of New York, offered the following resolution: That the Committee on Legislation be requested to prepare and present to the Legislature an amendment to the present medical law, allowing medical students, graduates of literary colleges, credit for the last year of study in such literary colleges.

DR. D. B. ST. JOHN ROOSA, of New York, said that in this country our zeal had led us to exceed even the requirements of Germany. According to present legislation, a man who desired to receive a liberal education in addition to his medical course and term in a hospital, could not begin the practice of medicine before the age of thirty years. In Germany the study of medicine was begun at about the age of our sophomores. The resolution was adopted.

SCIENTIFIC SESSION.

LUCIEN HOWE, M.D., of Buffalo, presented a *résumé* of a carefully prepared paper on

A GEOGRAPHY AND ARITHMETIC LESSON ON BLINDNESS IN NEW YORK STATE.

He said that his statistics would show that it is possible to lessen the blindness in this State by one-tenth, and reduce the cost to the State of caring for the blind $50,000 annually. A recent examination of over 3000 children in the two asylums of this state showed that

purulent ophthalmia was responsible for twenty-one per cent. of the cases of blindness in these little ones, and for a little over ten per cent. in those of all ages. This large amount of blindness is attributable to: (1) The negligence of the obstetrician in omitting Credé's method for preventing ophthalmia; (2) the negligence of the attendants in obtaining prompt relief; and (3) to the inability of the oculist, in about five per cent. of the cases, to prevent the destruction of the eye in purulent ophthalmia. The author indorsed the conclusion of Cohn of Breslau, based on a tabulation of 3000 cases—*i.e.*, that ophthalmia neonatorum can be, and must be, wiped out from every civilized country.

MATTHIAS L. FOSTER, M.D., of New York, presented a paper on

THE FITTING OF GLASSES.

He advised; (1) To test the vision of each eye at twenty feet; (2) to examine the eyes with the ophthalmoscope; (3) determine the amount of corneal astigmatism; (4) correct the principal refractive error; (5) determine the range of accommodation and add such spherical lenses as may be necessary to correct any presbyopia; and (6) ascertain any muscular error, and, after repeated examinations only, determine whether it is necessary to correct this error.

DR. ST. JOHN ROOSA said that an experience of half an hour with the ordinary tests should make the general practitioner an expert in testing vision.

CHARLES W. COX, M.D., of Brooklyn, read a paper on

A CONTRIBUTION TO THE STUDY OF COUGH DUE TO IRRITATION OF THE UPPER RESPIRATORY TRACT.

He said that the two regions most provocative of nasal cough were the posterior ends of the inferior turbinated bodies and the posterior end of the septum. Cough, particularly "morning cough," is often due to irritation in the naso-pharynx from adenoids, or the accumulation of viscid, tenacious mucus. The glazed mucous membrane found in atrophic rhinitis may also excite cough, as may also, in exceptional cases, papillomata of the soft palate. The important bearing of these considerations on the therapeutics of cough is evident. A constant and useless cough is not entirely devoid of danger.

DR. JOHN O. ROE of Rochester said that when there was no expectoration, cough must be looked upon as the result of some irritation in the upper respiratory tract. One of the most prolific sources of cough is a glandular hypertrophy or an aneurismal varix at the base of the tongue.

JAMES K. CROOK, M.D., of New York read a paper on

PRACTICAL CONCLUSIONS BASED ON 500 CASES OF CARDIAC DISEASE. THE COMPARATIVE PROGNOSIS OF THE VALVULAR LESIONS.

Out of a total number of 5817 cases on the dispensary record 3334 were males and 2483 females, of all ages over fifteen years. There were 277 cases of functional, and 226 of organic heart disease; 60 of mitral regurgitation; 35 of mitral stenosis; 7 of aortic regurgitation; 36 of aortic stenosis; 6 of tricuspid regurgitation; 1 of pulmonary stenosis: 19 of double aortic lesions, and 12 of double mitral lesions. Of the males, 149, or 4.45 per cent., suffered from functional, and 137, or 9.01 per cent., from organic heart disease. Of the females, 128, or 5.15 per cent., had functional, and 86, or 3.46 per cent., had organic cardiac disease. In the males, the three principal causes of functional disorders of the heart were: (1) disturbance of digestion; (2) excessive use of tobacco; and (3) excessive use of alcohol. Among the females, the functional disorders were mainly due to indigestion, anemia, and chlorosis; in only a very small proportion were they the result of excessive tea-drinking.

The hemic murmurs, Dr. Crook said, were almost invariably systolic. They were heard over the aortic and pulmonary areas, were usually transmitted to the great arteries of the neck, and, in the majority of cases, were accompanied by a venous hum. These blood murmurs are rarely audible below the third rib. In his experience the "water-hammer" pulse had been present in every case of aortic regurgitation. This sign seemed to be even more constant than the murmur itself. While mitral regurgitation is the most frequent lesion, it is also the most tractable and hopeful.

RICHARD VAN SANTVOORD, M.D., of New York called attention to the fact that we had in the sphygmograph a ready means of determining the amount of regurgitation and of obstruction at the aortic orifice. Referring to the "water-hammer pulse," he said that the failure of the dicrotic impulse might be due as much to the lack of elasticity in the aorta as to the amount of regurgitation at the valvular orifices.

ELI H. LONG, M.D., of Buffalo said that to differentiate between diastolic and systolic murmurs one had only to make intermittent pressure on the radial pulse and note whether or not the murmur is synchronous with the radial pulsation.

WOODS HUTCHINSON, M.D., of Buffalo read a paper on

SOME DISEASES OF THE ALIMENTARY CANAL, IN THE LIGHT OF ITS DEVELOPMENT AND ANCESTRY,

in an effort, as he said, to apply the comparative method of study to pathology, following out the lines of the address delivered before this Society last year by Dr. Roswell Park. He said that the most primitive stomach is the depression found in the ameba. In this organism, if one stomach were unsatisfactory, another depression could be made to serve the purpose. The first permanent stomach in the scale of evolution is to be found in the protozoa. He said that one of the best morphological definitions of man is "a stomach and its appendages." An infant stomach is practically in the "fish stage;" in other words, the human infant is essentially carnivorous in its tastes. If sacculation and enlargement of the stomach go beyond a certain point, the proper motility of the organ is lost and serious pathological conditions result. The greater the *normal* distention of the stomach in a given class of animals, the greater the pathological significance of any undue distention. This is well illustrated in the herbivora.

EMIL MAYER, M.D., of New York presented a paper on

SOME UNUSUAL CAUSES OF COUGH,

and drew the following conclusions: Cough is reflex in origin (1) when spasmodic and almost constant, without expectoration and elevation of temperature; (2) when the physical signs of pulmonary disease are absent; (3) when it persistently resists all medication; (4) when the general health is comparatively undisturbed, and (5) when, upon the removal of the cause, the cough promptly ceases.

ELI H. LONG, M.D., of Buffalo, in a paper entitled

DOES THE U. S. PHARMACOPEIA KEEP PACE?

referred to the fact that the New York State Medical Society, at the instance of the New York County Society, had issued the original call for a meeting, looking toward the adoption of a National Pharmacopeia. While this work originated with the medical profession, to-day the pharmacal institutions and societies predominate in the work of revision. It would seem better to have an equal representation of the two professions. He suggested that in the next pharmacopeia, a section should be devoted to furnishing reliable information concerning new drugs of tried value, and that each year a supplement to this should be issued. If it were thought best to include the matter of dosage, it would be least objectionable to do this in the index, where the dosage given would not be looked upon as giving an authoritative standard.

AFTERNOON SESSION, JANUARY 26.

CLARENCE C. RICE, M.D., of New York, read a paper on

THE EFFECT OF CIGARETTE SMOKING ON THE RESPIRATORY MUCOUS MEMBRANE.

He stated that while most writers asserted that cigarette smoking produces only a moderate degree of congestion of the mucous membrane, his experience indicated that it was responsible for the production of marked atrophic nasal catarrh, with a glazed pharyngeal mucous membrane.

The forced and oft-repeated inspirations, the rapid evaporation from the mucous surface, and the irritation produced by the smoke, are certainly sufficient to give rise to inflammation.

CHARLES E. LOCKWOOD, M.D., of New York, presented

A CONTRIBUTION TO THE STUDY OF AMEBIC DYSENTERY.

He reported a case of amebic dysentery that had recently come under his observation, and from a study of this, made the following deductions: (1) It is important to differentiate this form of dysentery from the others; (2) the feces should be examined microscopically in all cases of obstinate diarrhea characterized by remissions and exacerbations, with a notable tendency to chronicity and anemia, if accompanied by offensive, brownish-yellow, liquid stools, and colicky pains; (3) in these cases, rectal douches of bisulphate of quinin, 1–5000 or 1–1500, are markedly efficient; (4) it is important to make an early diagnosis, before the parasite has penetrated the submucous tissues, for, if this should occur, it is likely to lead to abscess of the liver; (5) these cases are liable to relapse, even after considerable time; (6) it is not improbable that there is a kinship between the ameba and the organism of intermittent fever; and (7) there is a possibility that acid solutions are beneficial in this disease, as they are inimical to the amebæ.

JOSEPH EASTMAN, M.D., of Indianapolis, by invitation, presented a paper on

FANCIES AND FACTS IN OUR WORK.

He said that many a life had been sacrificed by the fancied chemical sterilization of the hands and instruments, to the neglect of mechanical sterilization with soft soap and the nail-brush. Speaking of pelvic inflammation, he said that it was wrong to resort to the vaginal route, when the abdominal route was equally available, for it involved the destruction of the pelvic floor and vaginal vault. For cancer, vaginal hysterectomy was especially valuable, if done by an expert. All physicians should bear in mind that at the menopause, unless a discharge is absolutely *symptomless*, it calls for a searching examination.

Regarding appendicitis, or cases of suspected intestinal obstruction, the speaker said that these cases should be treated either medically or surgically, and not by a "fatal compromise" of the two. We should no more countenance the use of purgatives in these cases than in strangulated hernia.

DR. A. PALMER DUDLEY expressed the opinion that the chief cause of the mortality in suppurative appendicitis is the enthusiasm of the surgeon in his efforts to remove the appendix in all cases.

DR. GEORGE R. FOWLER of Brooklyn protested against the plan of invaginating the appendix during an abdominal operation, done for other lesions, as he had known it to result in gangrene and fatal sepsis.

DR. EASTMAN replied that during the past few years he had invaginated the appendix many times under these circumstances, and apparently with no bad results attributable to it although some of the patients had died.

JOHN O. ROE, M.D., of Rochester, read a paper on

THE CORRECTION OF DEPRESSED AND SADDLE-BACK DEFORMITIES OF THE NOSE BY OPERATIONS PERFORMED SUBCUTANEOUSLY WITHOUT THE AID OF METALLIC OR OTHER ARTIFICIAL SUPPORTS.

He said that the operation considered in this paper was applicable to cases in which the septum is present. There are two classes of depressed noses—idiopathic and traumatic. The first class is due to lack of development of the central portion, and excessive growth of the tissues of the end of the nose. To be successful the operation must be done under the most scrupulous asepsis and antisepsis, and the after-treatment carefully supervised.

W. E. FORD, M.D., of Utica, presented a paper on

GAUZE DRAINAGE IN SURGICAL GYNECOLOGY.

He referred to the danger of iodoform poisoning from

the use of iodoform gauze for drainage. His rule was to allow gauze to remain in the uterus for five days unless there was a rise of temperature and pain. He did not favor replacing the gauze. The gauze is not only useless but positively dangerous in the uterus in cases of gonorrheal inflammation. Since he had adopted the practice of curretting and tamponing before performing trachelorrhaphy, his results had been much better. In septic metritis he used a light gauze packing for not more than forty-eight hours. Recently he had found that after curetting a cancerous uterus, much comfort could be given the patient by a gauze packing wet with a solution of acetanilid. It also acted as a styptic.

DR. EASTMAN said that if gauze were used in the cervix it would, as shown by Savage, invariably cause contraction of the fundus. This would lead to obstruction, rather than drainage.

DR. H. L. COLLYER of New York said that by packing the uterus tightly with gauze the cavity would be plugged. On the other hand, if only a strip of sterile gauze were inserted drainage would be secured.

DR. DUDLEY of New York said that iodoform was more prone to absorption if used in the form of the glycerite.

W. GILL WYLIE, M.D., of New York presented some

OBSERVATIONS ON ABDOMINAL AND PELVIC SURGERY; PREPARATION, OPERATION, AND RESULTS.

His results in the last three years of hospital work were as follows: In 121 operations at Bellevue Hospital there had been ten deaths, or a mortality of 8.35 per cent. In 189 operations at his private hospital there had been three deaths, or a mortality of only 1.61 per cent.

WALTER B. CHASE, M.D., of Brooklyn presented a paper on

ABSORBABLE LIGATURES AND SUTURES IN PELVIC AND ABDOMINAL SURGERY.

He said that the qualities of an ideal ligature are sterility, pliability, strength, and endurance. Catgut, when washed in alcohol and sterilized at a high temperature and sealed in tubes, became so hygroscopic that when placed in the tissues it soon swells, filling the puncture and tightening the suture.

OBSTETRICAL DISCUSSION.

WM. WARREN POTTER, M.D., of Buffalo opened this discussion with a paper on

PUERPERAL ECLAMPSIA.

He said that the treatment should be both preventive and curative. The former should be both medicinal and hygienic, and the latter medicinal and surgical. One of the best methods of controlling the toxemia is by an exclusive milk diet, and one of the best diuretics for such cases is distilled water. When the eclampsia has become established, full chloroform anesthesia should be secured, and then, if necessary, the uterus should be promptly emptied by rapid dilatation of the cervix and the use of forceps. Cæsarean section should be reserved for extreme pelvic deformity or when the mother's condition is hopeless.

JAMES P. BOYD, M.D., of Albany, read a paper on

THE INDICATIONS FOR AND TECHNIC OF THE INDUCTION OF PREMATURE LABOR.

Premature labor should be induced in some cases of placenta previa and eclampsia in advanced disease of the heart or lungs, in hydramnios, where the fetus is dead, or when, in previous labors, the head of the child has been unusually large or unduly ossified. The speaker said that labor could be best induced by the insertion of an aseptic, flexible, solid bougie. Under the strictest aseptic and antiseptic precautions, this bougie should be inserted with the aid of Sims' speculum and a tenaculum to steady the cervix. Labor may be hastened in urgent cases by the use of Barnes' bags or by manual dilatation.

A. B. MILLER, M.D., of Syracuse, continued the discussion with a paper entitled

INFECTION OF THE PUERPERA.

He said that true puerperal infection is the result of the entrance into the birth canal of microörganisms whose habitat is outside that canal. The chief point in the treatment is to secure surgical cleanliness. Antiseptic douches destroy the germicidal secretions and act harmfully by diminishing the vital resistance, and hence the power to withstand infection.

WILLIS G. MACDONALD, M.D., of Albany, read a paper on

OBSTETRIC DELIVERY BY ABDOMINAL SECTION: INDICATIONS AND METHODS.

He said that craniotomy must be confined to cases where the fetus is already dead and the conjugate diameter is under two and a half inches. It was not nearly so safe or so simple as many claimed. Under suitable conditions, and in cases of moderate pelvic deformity, symphysiotomy would be the operation of election.

A. VANDERVEER, M.D., of Albany, presented a paper on the

PRESENT TREATMENT OF FIBROIDS ASSOCIATED WITH PREGNANCY.

He said that the subperitoneal variety of fibroid was not usually injuriously affected by pregnancy, while the interstitial or submucous variety was sometimes converted into a polypus, so that it could be easily enucleated.

DR. WILLIAM M. POLK of New York continued the discussion. He believed that when the cervical canal remained rigid in a case of puerperal eclampsia, veratrum viride and morphin would often give valuable aid. When these failed, he would advise placing the patient in Sims' position, separating the bladder, controlling the parts by clamps, and then dividing the internal os by a linear incision. Cases of pregnancy complicated by fibroids should be attacked only from above, and preferably by the Porro operation.

DR. H. J. BOLDT of New York was entirely opposed to the induction of abortion, even in the early stage of pregnancy complicated by fibroids. If at full term delivery could not be effected normally, we should at once remove the tumor and the *entire* uterus from above.

DR. C. A. VON RAMDOHR of New York favored the

removal of both the uterus and fibroid by abdominal section. For a rigid cervix in a case of eclampsia, the cervix should be incised by either Polk's or Dührssen's method.

DR. A. PALMER DUDLEY believed Cæsarean section to be preferable to any other method of surgical delivery, even in cases of eclampsia. Much valuable time was thus saved, and there should be no danger of sepsis.

DR. SEARS of Syracuse said that from his own experience he could indorse all the remarks of Dr. Potter. He called attention to the danger incurred in using the curette after full term delivery. In many such cases irrigation of the uterus was much safer.

Dr. Potter, in closing the discussion, said that he regarded veratrum viride, morphin, and venesection as very dangerous, unless used with great discretion.

H. J. BOLDT, M.D., of New York read a paper on

THE CAUSES OF DEATH AFTER ABDOMINAL OPERATIONS.

He said that since the general adoption of the Trendelenburg position he believed that the mortality after abdominal operations had been decidedly increased. He had come to consider it dangerous to perform such operations shortly after a severe illness, such as pneumonia or la grippe, for undoubtedly there is more danger of septic infection, owing to the diminished vital resistance. Carelessness or ignorance in the administration of the anesthetic was probably a not unimportant factor in increasing the mortality.

EVENING SESSION.

DR. WM. HAITES of Albany made some remarks on the

PRACTICAL APPLICATION OF X-RAYS IN CASES OF FRACTURE.

He reported three recent cases in which the X-rays had rendered valuable assistance.

DR. REGINALD H. SAYRE of New York made some remarks on

POSTURE IN DIAGNOSIS OF DISEASE,

and illustrated them by lantern views.

DR. WM. JAMES MORTON of New York then gave an

X-RAY STEREOPTICON EXHIBITION.

He said that both the static machine and induction coil might be used. The coil should be capable of giving not less than an 8-inch spark. In taking a skiagraph of the hand, the source of the X-rays should be about one foot distant; for larger objects it must be further off.

SECOND DAY—WEDNESDAY, JANUARY 27TH.

To expedite the Scientific Proceedings L. D. BULKLEY, M.D., offered a resolution directing the Business Committee to limit the number of papers at the annual meeting to fifty; to receive no titles of papers after December 1st unless this number had not been received, and to print on the program the time allotted each paper, this time not to exceed twenty minutes, except in the case of invited guests.

In the discussion of this motion it was opposed by DR. ROOSA on the ground that it would not have the effect desired by its proposer.

The matter was finally referred to the Committee on By-Laws.

DR. BULKLEY then read a paper entitled,

DEFICIENT EXCRETION FROM KIDNEYS NOT ORIGINALLY DISEASED, AND SOME DISEASES PECULIAR TO WOMEN, AND DISEASES OF THE SKIN.

This paper, he said, was so entitled as it was intended to be merely supplementary to the interesting paper on this address delivered by Dr. Etheridge last year. He had simplified Dr. Etheridge's table of the relation of the total urinary solids to the body-weight, thus: the urinary solids excreted in the twenty-four hours should amount to 500 grains for a body-weight of ninety pounds, and this amount of solids should be increased seven grains for every additional five pounds of body-weight. To determine the quantity of urinary solids: multiply the last two figures of the specific gravity by the number of ounces of urine voided in the twenty-four hours, and increase this ten per cent.

DR. HENRY R. HOPKINS of Buffalo said that it was customary for physicians to interrogate the urinary secretion in almost every other particular than in the very important one discussed in this paper.

DR. REYNOLD W. WILCOX of New York said that by this estimation of the urinary solids one could usually detect renal insufficiency long before the appearance of albumen or casts in the urine.

DR. MORTON of Brooklyn, said that eczema was (1) either purely local, or (2) was due to vaso-motor disturbance. The latter was the result of the circulation in the blood of certain toxic substances.

DR. BULKLEY, in closing, said that experiment had shown that the coloring matters and extractives constituted half of the toxicity of the urine; hence the importance of knowing the total quantity of urinary solids.

THOMAS E. SATTERTHWAITE, M.D., of New York, read a paper on

THE TREATMENT OF HEART DISEASE.

He said that absolute rest in the treatment of heart disease must soon be supplemented by either active or passive muscular movements. He preferred the use of a mixed diet, and the moderate ingestion of fluids between meals. There are three classes of Schott exercises: (1) Passive movements resisted by the patient; (2) slow, voluntary movements of the patient, resisted by the operator; and (3) an elaboration of Stoke's old method of pedestrian exercises. The Schott exercises are always gentle, and the method has the merit of being safe. The warm, saline, effervescent baths are a valuable aid to these exercises, and can be, without great difficulty, extemporized by the physician. Among our remedies, Dr. Satterthwaite still looked upon digitalis as the best. Iodid of sodium or potassium was useful, as it could be given with benefit for a long time.

DR. WILCOX said that undoubtedly the Schott baths and exercises caused a speedy diminution in the size of

the ventricles. It was certainly superior to the Oertel method. But it must be admitted that the peripheral resistance could be just as well reduced by the nitrates, and the ventricles made to contract by the use of strophanthus, as could be done by the bath treatment.

DR. HENRY L. ELSNER, of Syracuse, spoke of the very common use of nitroglycerin, with a total disregard of its physiological action. It should only be used for the purpose of overcoming obstruction to the circulation. If used where the heart is weak and flabby, and the coronary arteries already dilated, the result is likely to be disastrous.

E. C. SPITZKA, M.D., of New York, presented a paper entitled

PRACTICAL POINTS RELATING TO THE DIAGNOSIS AND MANAGEMENT OF SYPHILITIC BRAIN DISEASES.

He dealt chiefly with the differential diagnosis between true melancholia and that melancholic state found in the initial period of syphilitic dementia. In true melancholia, the patient is sad because he cannot be anything else; he suffers from insomnia, and is constantly depressed; he is neglectful about his dress. In the other condition, the individual is depressed because he cannot attend to his business; he sleeps soundly at night, and often also during the day; he is inclined to be irritable, but varies greatly in temper from day to day; he is extremely particular about certain features of his dress and negligent about others. Early treatment, the speaker said, should often prove very effective. The most common error was a too exclusive reliance on the iodids, His own initial treatment was always by mercury.

DR. FREDERIC E. STURGIS of New York said that while these syphilitic melancholiacs often talked of suicide, they rarely attempted it. In his opinion, the iodids were here very much more rapid in their beneficial effects, and they also served to check the more serious subsequent symptoms.

DR. L. D. BULKLEY said that the use of mercury enabled one to greatly reduce the dose of the iodids.

DR. WILLIAMS suggested that the existence of a subnormal temperature for days together should lead to a suspicion of late syphilis.

LANDON CARTER GRAY, M.D., of New York, read a paper on

THE TREATMENT OF LOCOMOTOR ATAXIA,

to appear in next week's NEWS.

HENRY L. ELSNER, M.D., of Syracuse, reported

A CASE OF ERYTHRO-MELALGIA.

The patient experienced intense pain in the hands, so that she was even willing to submit to amputation. The erythematous spots were chiefly on the bases and tips of the fingers, but the lesion was more extensive on both thumbs. The erythema persisted, and while this was present a true Reynaud's gangrene occurred on the tip of the thumb. The only explanation he could offer for this unique phenomenon was, that where blood-vessels have been long distended, the intema becomes thickened, and finally causes obstruction and gangrene.

REYNOLD W. WILCOX, M. D., of New York, read a a paper on

STROPHANTHUS.

After studying one known and reliable variety of strophanthus—that used by Fraser in his original investigation—he had arrived at the following conclusions:

(1) Strophanthus increases the muscular action of the heart by direct action on the muscle itself; (2) its rapidity is unequaled by any other cardiac drug; (3) it has practically no effect on the size of the blood-vessels; (4) it is regularly eliminated by the kidneys; (5) unless too frequently repeated, there is no accumulative action; (6) it stands almost alone among heart remedies in acting only on the heart muscle; (7) it is about 300 times stronger than digitalin, and 300 to 400 times stronger than caffein, and, (8) it is diuretic only when the increased blood pressure invokes diuresis.

DISCUSSION ON THE RELATION OF IMPURE DRINKING WATER TO DISEASE, AND THE CURE AND PREVENTION OF THE LATTER.

GEORGE BLUMER, M.D., of Albany, opened this discussion by a paper on

DISEASES WHICH CAN BE DIRECTLY TRACED TO CONTAMINATED WATER.

He said that the diseases due to animal organisms in water were malaria and amebic dysentery, although the evidence in the case of malaria is not very conclusive. The diseases due to vegetable organisms are typhoid fever, Asiatic cholera, and certain diarrheal diseases.

ROWLAND G. FREEMAN, M.D., of New York continued the discussion with a paper on

DANGERS OF THE DOMESTIC USE, OTHER THAN DRINKING, OF CONTAMINATED WATER.

He said that in eleven epidemics of diphtheria caused by milk that he had collected, in two it was supposed to have arisen from the use of contaminated water on the farms. In fifty-three epidemics of typhoid fever due to milk, in nine it was found to have originated in foul water. The danger of typhoid fever being disseminated by oysters had been known only since 1894. The typhoid bacillus will live for eight days in water taken from oyster-beds. If injected in oysters these bacilli may be found for thirty days.

T. B. CARPENTER, M.D., of Buffalo read a paper on the

METHODS OF PURIFICATION OF IMPURE WATER.

He said that in practice sand filters had recently been proved to be quite efficient. Mechanical filters, to be efficient, must be used with some coagulent, such as alum.

The following officers were chosen for the ensuing year: President, Seneca D. Powell, M.D., of New York; Vice-President, Lucien Howe, M.D., of Buffalo; Secretary, Frederic C. Curtis, M.D., of Albany; Treasurer, Charles H. Porter, M.D., of Albany. The chairmen of the various committees were all re-elected.

(To be continued.)